

EUROPEAN NEWS

Austria's electricity imports up sharply

By Patrick Blum in Vienna
AUSTRIA'S IMPORTS of electricity went up by more than 40 per cent last year underlining its dependence on energy imports and confirming fears that it will not be able to meet domestic demand without increasing its reliance on Eastern Europe.

Almost 47 per cent of the imports came from the Comcon area, compared to 49 per cent from the OECD nations. However, the OECD share fell by more than 7 per cent, while that of the Comcon rose by almost 10 per cent.

The trend towards increasing dependency on Comcon for all forms of energy imports—it accounted for more 51 per cent of Austria's total energy imports last year—has prompted concern from the International Energy Agency and the OECD.

Both have recommended that Austria diversify supplies and expand domestic production, initially by putting the mothballed nuclear power plant at Zwentendorf into operation. The plant has never been used following a vote against nuclear power in a national referendum in 1978.

Figures for the first five months this year show an even larger increase of 60.5 per cent in electricity imports, compared with the same period last year.

Electricity exports have failed to match imports and for the first time Austria has become a net importer of electricity. In the past, exports were greater than imports: in 1979 exports were higher by a ratio of 4 to 1.

During the past five years, demand for electricity has grown steadily and at a faster rate than for other energy sources. It is expected to rise by about 1.5 per cent a year over the next five years and then by 2.5 per cent a year between 1990 and 1995.

Austria's electricity grid is linked to Eastern Europe via lines to the power conversion plant at Durrrohr. It has agreements for exports with Poland, Czechoslovakia, Hungary and the Soviet Union which will provide 300 Mw a year for 20 years, starting in 1985.

Rusting imports raise Pravda's ire

BY DAVID BUCHAN, EAST EUROPE CORRESPONDENT

THE SOVIET petrochemical industry is letting imported Western equipment, worth Roubles 845m or the equivalent of \$1bn, go to waste, the Communist party newspaper, Pravda, complained yesterday.

The revelation comes as the Soviet Union is generally gearing up to try to increase the downstream use of its extensive primary energy resources with such Western companies as ICI and Davy McKee building plants to convert gas into methanol.

Pravda said the worst example was more than Roubles 100m of imported equipment lying in an open field at Belaya Taerkov in the Ukraine for a tyre plant which had stayed unbuilt for the past five years because planners had lowered the

priority for tyre production. Part of the problem may stem from the cautious Soviet management practice of not breaking ground on new projects until a substantial portion—sometimes 70-80 per cent of the equipment has been delivered to the site. But Pravda, which, like the rest of the Soviet press since the Andropov era, has taken on the role of scourge of inefficiency and corruption, said the petrochemical industry and its superiors in Gosplan, the state planning agency, must take the blame.

The political pressure on industry to make better use of imported equipment has increased with new constraints on the country's foreign exchange earnings. The Soviet

Union recorded an increased hard currency trade surplus in the first quarter of this year, but mainly through re-exports of Middle East oil bartered for arms, rather than indigenous oil output which has levelled off in recent months.

A persistent foreign exchange drain has been grain imports, and Pravda also reported yesterday that one element of the Soviet "food programme"—the financial self-sufficiency of state and collective farms—was failing. One third of all farms were still losing money, and some were sinking into debt faster than before.

Pravda said that many farm managers had only a shaky grasp of such concepts as prices, profit and cost efficiency, which

leaders like Mr Mikhail Gorbachev, the politburo member responsible for agriculture, have stressed. However, some observers feel that the recent government move to increase farm prices at the wholesale, but not the retail, level has made increased state budget subsidies inevitable.

Confirmation that the Andropov-inspired campaign against corruption continues under the new leadership came this week with the execution of the former manager of the luxury food store "Gastronom No. 1," Moscow's answer to the Harrods Food Hall. Mr Yuri Sokolov was arrested last year and sentenced to death for "systematically receiving and giving bribes."

Earlier this year, when Herr Heiner Geissler, secretary general of the Christian Democrat Party, said he was in favour of modifying the law, he was pounced on by fellow CDU politicians for allegedly antagonising the party's most loyal voters. For years the liberal Free Democrat Party toyed with the idea of changing the rigid law, but it now appears to have shelved the idea.

West German shops and supermarkets must close at 1pm on Saturdays, which leads to long queues before the gate comes down. Department stores and shops are permitted to stay open until 6.30pm on the first Saturday of each month.

Berliners get extra time for shopping

By Leslie Collett in Berlin

A TINY DENT, but not more, has been made in West Germany's strict 6.30pm shop closing law by about 150 shopkeepers in West Berlin. In order to promote tourism and liven up the urban scene, they are being permitted by city authorities to remain open until 9pm each Friday during the summer months.

A radical move by West German retail standards, it is opposed by the vast majority of shopkeepers and their sales assistants. The West German consumer has not yet raised his or her voice loudly enough to be heard on the subject.

West Germany's retailers and the unions are united in their opposition to any change in the shop closing law of 1956, which was designed to prevent the exploitation of employees and to protect the small shopkeeper.

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This makes hiring additional sales people prohibitive. Almost without exception, boutiques and jewellery shops are the only ones open in West Berlin on Friday evening until 9pm, with their owners manning the counters.

Christopher Bobinski reports on Poland's management reform

Workers struggle to be heard

POLAND'S WORKERS' councils, the self-management system originally established in 1981 during the brief Solidarity era, have been set up in some 7,000 companies but have so far been able to exercise very little control over management decisions.

"Either they start behaving like a trade union, or they are dominated by managers who use them as an argument in trying to settle problems with the Government," says Mr Jerzy Urbani, a former member of Solidarity's national leadership who was responsible for the self-management movement.

So far, the Government has stuck to its commitment to the self-management legislation, even though it comes under intermittent fire from hardliners. Moderates in the establishment argue that the councils might involve some workers at least in improving productivity.

Amnesty will go ahead

POLAND WILL go ahead next weekend with a broad-based amnesty for political prisoners and minor criminal offenders, according to Mr Jerzy Urbani, the government spokesman. He refused yesterday to discuss the details of the legislation, which is now before Parliament. It is expected to cover the great majority of the country's 680 officially-admitted political prisoners. It is not known, however, if the amnesty will include the four prominent KOR dissidents whose trial started last Friday and is

scheduled to resume today. The amnesty will mark the 40th anniversary of Communist Poland. The celebrations are to be attended by Mr Nikolai Tikhonov, the Soviet Prime Minister, and his Hungarian opposite number, Mr Gyorgy Lazar. But the East Germans, Bulgarians, Romanians and the Czechs have struck a discordant note by sending, contrary to earlier expectations, officials of only deputy premier rank. The Czechs will be represented by Mr Josef Koreak, a veteran bardiller.

unsuccessfully to organise a meeting of about 20 similar councils from the larger Polish plants to discuss the economic reforms. The law allows the councils to maintain such contacts. Official alarm bells soon rang at this grassroots initiative, however, and the local bureaucracy swung into action, warning Mr Stanislaw Cuzszel, the chairman, of the "consequences" if they went ahead.

hers on the council to vote against it. In May, the Elana council, summing up last year's production results, recognised the management's achievement of a 22.6 per cent profit margin, almost double the average on the government statistical office's list of Poland's 500 largest companies. At the same time it criticized Mr Kazimierz Hartwich, the managing director for failing to pay due regard to modernising the plant, for neglecting personnel relations and for not co-operating with the council itself.

Elections at the end of June, however, strengthened the self-management activists. The turnout showed that the workers felt the council had an important role to play. Mr Stanislaw Cuzszel, the council chairman, a 34-year-old history graduate who handed in his Communist party card in protest at the imposition of martial law, won 75 per cent of the ballot in a production department where 87 per cent voted. Depending on the department 60 to 80 per cent of employees voted.

All the indications are that party members will make up 20 per cent of the new council as opposed to the 60 per cent in the outgoing one. Mr Cuzszel says: "We try not to make these distinctions. After all, we're interested in production, not politics, but people on the shop floor evidently knew the candidates

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OVERSEAS NEWS

WORLD TRADE NEWS

Lange draws up crisis measures for New Zealand

BY DAI HAYWARD IN WELLINGTON

MR DAVID LANGE, the New Zealand Prime Minister-elect, will today propose to his new Cabinet a package of economic measures to deal with the country's financial crisis...

Sikh sect begins work on Golden Temple

By K. K. Sharma in Amritsar

A DIVISION in the Sikh religious community in Amritsar yesterday threatened to heighten tensions in the holy city. It could create further problems for the Indian Government...

Shippers seek airlift around UK strike

BY OUR FOREIGN STAFF

AIR FREIGHT brokers and air charter operators have been inundated with inquiries since the start of the British dock strike which began on Monday...

The hardest hit exporters are those selling fruit and vegetables, and British Caledonian is now flying in tomatoes and other perishable foods to the UK market...

back on deliveries. So far this had prevented traffic jams. In the past two days three ships have arrived from outside Europe to unload at Zeebrugge cargo destined for the UK...

pear to have heeded warnings not to send their trucks to the Channel. At Boulogne, Dieppe and Dunkirk only a few lorries were waiting yesterday...

Banana cargoes may be dumped

FINANCIAL TIMES REPORTER

SIXTY million bananas on board three Geest cargo ships due to dock at Barry, South Wales, in the next few days will have to be dumped if they are not unloaded because of the UK dock strike...

The Windward Islands have asked the Transport and General Workers' Union in Britain for special dispensation for the three ships to be unloaded...

"As things stand at the moment, it seems that the bananas will perish and we will then have to consider laying off 200 workers," Geest said...

Meat factories have already stopped taking cattle for slaughter and extra sailings are being arranged between Ireland and continental ports...

Anzus pact 'threatened if N-powered ships banned'

BY OUR WELLINGTON CORRESPONDENT

THE U.S. regards visits by its nuclear-powered ships to New Zealand and Australian ports as essential for the continuation of the Anzus mutual defence treaty grouping the three countries...

Philippines strike call

MANILA—Labour leaders said yesterday that 52 per cent inflation, widespread lay-offs, and Government restrictions on union activities may force them to call a nationwide strike...

S. Africa fears interest rate rise is inevitable

BY JIM JONES IN JOHANNESBURG

DR GERHARD DE KOCK, South Africa's Reserve Bank governor yesterday said that further interest rate increases cannot be ruled out. Reacting to the announcement that the country's five major banks had increased their prime lending rates from 21 per cent to 22 per cent...

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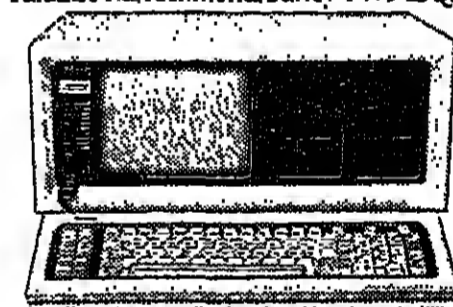
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WORLD TRADE NEWS

Howe attacks curbs on freedom of trade within Community

BY CHRISTIAN TYLER

BRITAIN is determined to see administrative barriers to trade within the EEC dismantled, Sir Geoffrey Howe, Foreign Secretary, said last night.

Unless Europe fulfilled its treaty obligation to complete the internal market, it could scarcely expect the rest of the world to stand firm against trade protectionism, he said.

Harmonisation of standards had been slow, cumbersome and limited: "All too often we are running fast only to stand still." For example the government was trying hard to persuade West Germany not to legislate too quickly on motor vehicle exhaust control, because that could cut across proposed Communitywide controls.

Sir Geoffrey cited the lack of cross-border insurance services as another obstacle to a genuinely common market. Industry's costs could be cut by up to 5 per cent if there were EEC-wide insurance policies.

Separate customs procedures and lorry quota arrangements were costing European business another £7bn a year, he claimed. In air transport, the UK had made a start in opening up what he called "a price-fixing cartel" with a bilateral agreement with the Netherlands to

Mike Faber examines the detail of Ghana's complicated new deal with Kaiser Aluminum

How Nkrumah's dream became a commercial reality

THE GOVERNMENT of Flight Lieutenant Jerry Rawlings might not be everyone's prime choice to bring off a complicated and delicate negotiation with a U.S. multinational. Yet the agreement just announced between Ghana and the Volta Aluminium Company (Valco), owned 90 per cent by Kaiser Aluminum and Chemical and 10 per cent by Reynolds Metals, is likely to be hailed as a commercial success, and will be welcomed by international financing institutions.

In broad terms, the agreement could be worth up to \$50m (£37m) a year to Ghana when and if the aluminium price and the level of water in Lake Volta fully recover from the present drought. It will also do much to assuage the resentment of Ghanaians who feel that they were short-changed 24 years ago in one of Africa's most monumental deals.

The arrangements agreed in 1962 between President Kwame Nkrumah, Mr Edgar Kaiser, President John F. Kennedy, the World Bank, U.S. Eximbank, the British Government and others led to the construction of the Volta River dam and Akosombo power station, the

formation of the most extensive man-made lake in the world and the construction of Africa's largest aluminium smelter.

Revenue from energy sales to the smelter would service the debt incurred in building the dam and power station and the surplus energy, available at a reasonable price, would, in Dr Nkrumah's thoughts, facilitate Ghana's industrialisation. He also planned, and most Ghanaians expected, that within a reasonable time the smelter would use Ghana's own bauxite resources.

Since the 1960s, however, the inconsistencies between Dr Nkrumah's dream and Kaiser's commercial requirements have become increasingly obvious. Industrialisation has floundered. Ghana still exports its bauxite while the smelter still imports the shareholders' alumina.

After two oil crises, an energy price fixed in 1982 and curiously unchanged for 35 years became politically and commercially unsustainable—even with the base price being allowed to rise from 2.825 to 3.6 mills per kilowatt hour. (A mill is one-tenth of a cent.) The main elements of the new deal are these:

Ghana's chief negotiator in the Valco talks yesterday expressed cautious satisfaction with the deal, pending a major review of its terms in 1988, writes our Trade Staff.

Under the terms fixed last week, the agreement will be examined then "to see if it continues to be fair to Ghana, Valco and its shareholders". Later reviews, at five-yearly intervals, are likely to be more routine in substance. Professor Aki Akpa Sawyer, who chaired Ghana's negotiating team, said the first review would focus on tolling fees and power charges and would not need to tackle the agreement's basic principles unless a disruption such as another big rise in international energy prices occurred.

He expressed confidence that production of some kind will resume at the aluminium smelter by the end of this year, owing to an anticipated replenishment of Lake Volta.

Valco's "power ceiling" comes down from 370 MW to 315 MW sufficient in normal years to run four rather than five potlines in the smelter. In part this reflects a downward revision of the hydrological assumptions, but the change also leaves the Volta River Authority (VRA) with an extra 13 per cent of its capacity to sell to Ghanaian users or to export at prices three times as high as Valco's new power rate and nine times as high as the old one. In a good year that change could benefit VRA revenues by up to \$25m.

The tolling fee—what the shareholders pay to have their alumina processed into aluminium in the smelter—goes up from 60 per cent to 68 per cent for the next three years, and will then be reviewed. In the past, the smelter has been regarded somewhat as a service facility for its shareholders. From now on, it will operate much more as a company in its own right, seeking to maximise its profits even if it has to increase its fee to its two shareholders who are also its only customers. The increase also reflects the depressed state of

the alumina and shipping markets, since the logic of the three-year arrangement is that it should be on the basis of arm's-length pricing.

● The base power rate will go up from 5.6 mills to 17 mills a kilowatt hour. The actual rate charged, however, will be altered by two factors. There is an escalation provision which links two-thirds of the power rate to the price of aluminium. There will also be reductions in the power rate when energy delivered falls below the new power ceiling. Since the metal's base reference price is 78 cents a pound, both adjustments are likely to operate downwards in the immediate future. The current spot market price for aluminium is about 60 cents a pound.

● Standard Income tax will go up from 40 to 46 per cent. Interest withholding tax at 10 per cent and dividend withholding tax at 15 per cent will apply, unless overridden by tax treaty provisions. However, the dividend withholding tax will operate at the reduced rate of 5 per cent on Valco's \$121m of retained earnings.

● The Government has accepted two seats on Valco's board. It was also offered 20 per cent of the equity of Valco at book value. Since the book value is likely to decline for the next year or so, Ghana's reply was "not at present, thanks... but we'd like the option to be kept open." Kaiser regards this as unacceptably "life-shooting" the purchase price, so the position has been left for future discussion.

What have Valco and its two shareholders got out of the new agreement? A power allocation formula which, unlike the one in the present contract, is realistic and can therefore be applied, increased security for their investment—as a result of the removal of provisions that all Ghanaians have long felt operated inequitably—a fact which senior Kaiser executives themselves recognised. In describing the new agreement as "fair" and "an improvement," shareholders' rights in regard to the repatriation of dividends have also been strengthened.

Professor Faber is director of the Institute of Development Studies at Sussex University and was a member of the Commonwealth Secretariat team assisting Ghana in the negotiations.

UN seeks new accord on flag of convenience ships

GENEVA — A UN conference seeking a new international accord on so-called "flags of convenience" opened in Geneva on Monday to try to define the link between ships and the national flags they sail under.

Such an accord could weaken or phase out "open registry" operations in which ship owners use the flags of other countries — Liberia, Panama, Cyprus, Bermuda and the Bahamas — to gain tax benefits, save on wages and cut costs.

Developing countries, which create some 60 per cent of world exports but own only 15 per cent of world shipping, have been pressing for such an accord, saying it could help them expand their fleets, according to the UN Conference on

Fontana mill purchase concluded

BY ANDREW WHITLEY IN RIO DE JANEIRO

PURCHASE OF the mothballed Fontana steel mill in California by a consortium of Brazilian, Japanese and U.S. companies has been concluded, guaranteeing a major customer abroad for Brazil's Tubarao steel works.

Tubarao, a producer of semi-finished slabs, came on stream last November. But all of its output until now has been restricted to trial shipment.

A letter of intent to purchase Fontana from its owner, Kaiser Steel, was signed last Friday by the three consortium partners: Kawasaki Steel of Japan and Wilkinson of the U.S. Formal conclusion of the deal was expected yesterday.

According to CVRD, Fontana will take 700,000 tonnes of slabs a year from Tubarao, which is part of the state-owned Siderbrs group. This sale represents nearly a third of the capacity of the new Brazilian steel works, over whose long-term viability doubts had been expressed.

The last hold-up to conclusion of the unusual triangular deal was cleared last week, following the publication of the findings of the U.S. International Trade Commission on steel imports.

In the case of semi-finished products, the ITC recommended an annual import ceiling of 1.5m tonnes, with a 15 per cent surcharge on any excess imported during the first three years of the new restrictions and 10 per cent in the two subsequent years.

Although the regulations will not come into effect until President Ronald Reagan has pronounced on them in late September, the Fontana consortium partners appear to have concluded in advance that they will not be affected.

Sr Jose Manoel de Carvalho Neto, superintendent of CVRD, said in Rio de Janeiro on Monday that the Brazilian company's 25 per cent shareholding will be paid for largely

Australian beef quota agreement likely in Tokyo

By Robert Cottrell in Tokyo

THE Japanese and Australian governments are due to resume talks in Tokyo tomorrow on quotas for Japanese imports of Australian beef over the next four years. Japanese officials are indicating that an agreement is likely this week, three months after the first round of meetings.

The Japan-Australia talks followed an agreement in April this year between Japan and the U.S. to boost Japanese imports of U.S. beef by an average of 6,900 tons per year over the coming four years.

But Japan said it would raise its total beef imports by only 9,000 tons annually, diminishing the market share of Australian producers, who supplied most of Japan's 141,000 tons of beef imports last year. The U.S. supplied about 30,000 tons.

Its remaining contribution will come from the sale of Tubarao steel products—under a private arrangement between the two Brazilian state-owned companies.

Wilkinson, which is taking a 50 per cent shareholding in the Fontana steel mill, will manage the works.

Hopes of a breakthrough in the Latin American market for Agusta, the Italian state-owned aircraft and helicopter manufacturing company, have been dimmed by the refusal of the Brazilian Aeronautics Minister to place orders for two military aircraft to be built under licence in Brazil.

Sial Marchetti, a subsidiary of Agusta, recently reached agreement in principle with Aerotec, a small Brazilian aircraft components manufacturer, for the local assembly of a single-engine, turboprop aircraft and a twin-engine amphibious plane.

Otis Elevator signs joint venture contract with China

HONG KONG—The Tianjin Elevator Company, Otis Elevator and China International Trust and Investment Corporation (Citic) have signed a joint venture contract creating China Tianjin Otis Elevator Company.

This will be China's second joint venture with a foreign company to make elevators. The first, thought at the time to be exclusive, was set up in 1980 with Jardine Schindler of Hong Kong, to run factories in Peking and Shanghai.

According to Wang Yun Qi, president of Tianjin Elevator, the new company will instal and service elevators to meet the burgeoning demands of the Chinese domestic market, but will also export. Wang said the partnership with Otis will enable Tianjin Elevator to strengthen its leadership in elevator technology and services in China.

Details of the joint-venture contract are not yet available as final negotiations are still in progress, a Hong Kong Otis representative said.

Mr Francis Janlin, president of Otis Elevator Company, said the joint venture would enable Otis to return to China, where it was the leading elevator company prior to 1945.


Otis, the world's largest elevator company, will help the Tianjin company in developing new products and technologies. Citic played a key role in helping the two elevator companies negotiate the contract and will continue to help guide the joint venture.

Otis is a wholly-owned subsidiary of U.S.-based United Technologies Corporation.

Japan's Taisei Corporation has won a ¥10bn (£3.1bn) contract to build a water-conducting tunnel for an electric power plant due to be built in southern China. China plans to build the plant and dam at Labuge in Yunnan province with World Bank finance.

This announcement appears as a matter of record only.

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TECHNOLOGY

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LOGICA CENTRE TO SPECIALISE IN KNOWLEDGE BASED PROGRAMS

Intelligent tutors are next for call up

BY PETER MARSH

BRITISH SOLDIERS may soon learn to operate the latest military hardware with the help of a computer that understands their feelings.

Besides instructing military staff in a particular subject, the machine would continually update itself on how well the student was assimilating the information. The hardware would do this by periodically asking the person questions, processing the answers so as to keep a blueprint of his or her capabilities in a semi-conductor memory.

In this way, the system would vary its procedure to give slow learners a different level of tutoring to those who had shown they could grasp information more quickly.

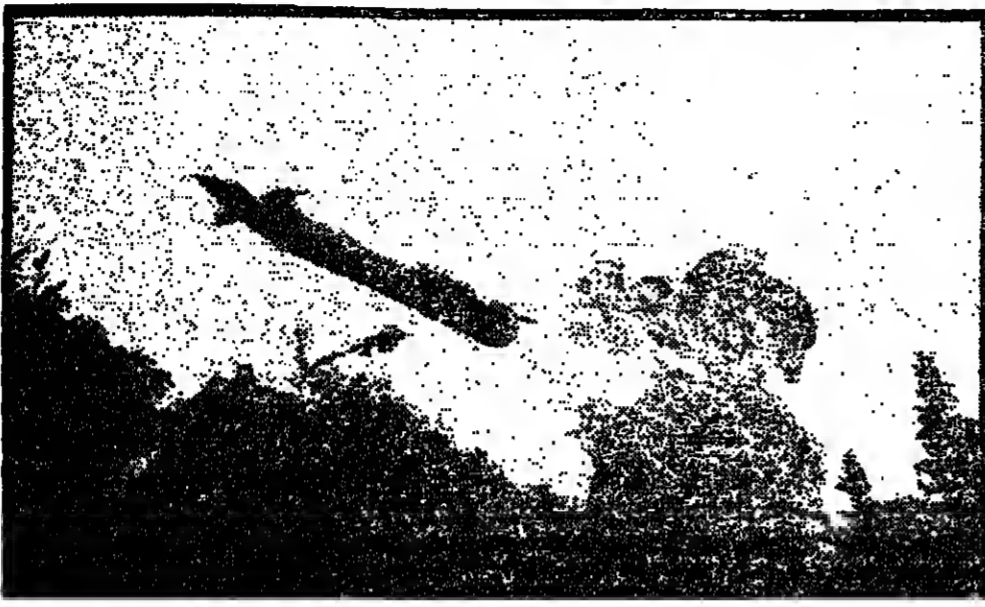
The "intelligent tutor" is the result of a joint project between the Ministry of Defence's Royal Signals and Radar Establishment at Malvern, Worcestershire, and Logica, the computer company.

According to Dr David Stanley, head of a new technical centre that Logica has set up in Cambridge, the project could lead to applications not just for military people. Software from the development could also be used in projects involving civilians, for example interrogation systems to make it easier for people to extract information from a large mass of complex data.

In one such application, engineers from Logica and ICL are designing computer routines to enable people to find out information about cash benefits from data bases provided by the Department of Health and Social Security. This is a programme funded by the Government's Alvey directorate, which is attempting to stimulate research into novel uses of computers.

Dr Stanley, Logica's technical director, is directing a team of 15 researchers in Cambridge. The company hopes to double the people in the team by next year. The centre will emphasise studies in artificial intelligence and knowledge-based programs that give computers reasoning powers approaching that of the human brain.

In the specific project under study by Logica and the RSRE, engineers are designing a computer to teach officers the complexities of international legislation, for example as it affects the air defence of Britain or the activities of the North



A "Blowpipe" missile leaves its launcher. "Intelligent" computers will help to train the military in sophisticated hardware like this.

Atlantic Treaty Organisation. By the time the work is finished next year, however, engineers hope that the hardware could equally be applied to teach military people the rudiments of new weaponry or the latest in missile technology. Initially, students will communicate with the computer via the time-honoured technique of typing in sentences on a keyboard.

But eventually Dr Stanley has no doubt that, thanks to advances in voice-recognition programs, men and women will communicate with such computer-aided learning systems simply by talking to them. "In about five years a lot of interaction between people and computers will be by speech," he says.

Other areas on which the Cambridge team will work include:

- Expert systems. These are computer programs that embody a mass of knowledge obtained from a human expert in a particular subject. Other people can gain access to the information by quizzing the computer. Logica is interested in expert systems that, for example, diagnose ailments from a mass of medical data.

- Data compression techniques. These could be useful in generating information from a

large amount of data that, in the ordinary way, would have to be sifted meticulously by humans. In this manner, for instance, computers could present meaningful information about enemy movements from military command-and-control systems. Alternatively, hardware on remote-sensing satellites could screen data obtained from sensors about crop yields in fields, saving engineers the trouble of having to sift the information after it has been returned to the ground.

- Speech recognition. Logica plans to develop further a computer system called LOGOS that can understand a limited vocabulary. The hardware has applications where people have few opportunities to use a keyboard because they need to keep their hands free for other jobs. For example, the equipment could be a bonus for an aircraft pilot who, at the same time as wrestling with a joystick, could simply shout commands to a computer. Other people who could benefit in a similar way include foreign-exchange dealers.

- New forms of semiconductor chips. Dr Stanley thinks that companies such as Logica, whose main business is selling computer systems, and consultancy services, should nonetheless keep up to date on tech-

niques to squeeze more electronic elements into integrated circuits. This is on the grounds that, increasingly, the overall architecture of a computer system dictates the design of the individual chips from which the hardware is made.

- New forms of computer architecture. Most conventional computers process data in a serial way—one instruction after another. The machines of the future that will work on artificial-intelligence applications will probably require a different basic framework in which the hardware processes several trains of data simultaneously—they are said to work in parallel fashion. Logica is building a parallel processor called DIPOD. The company's engineers are also devising a new language called FITH in which the software for such machines will be coded. The work in these areas will gradually be shifted from other Logica laboratories to Cambridge.

- Software engineering. With the emphasis today on the software component of computer systems, electronics companies are trying increasingly to perfect ways of ensuring that programs are free from errors and do the jobs for which they are intended.

DATA COLLECTION

Rag trade benefits from 'plane thinking

TWO BRITISH innovators have adapted to the needs of the UK clothing industry, technology developed in California for one of the world's leading aerospace companies.

Production Control Information, a Sheffield company set up three years ago by Mr John McCormack and Mr Keith Benson, sells systems that record the output of sewing machinists in clothing factories. The equipment feeds data to a central computer so that supervisors can keep track of the myriad items of cloth likely to be circulating in such workshops.

The two men were part of the team which worked in the late 1970s on similar hardware for Hughes Aircraft of California. At that time the aerospace leader was interested in diversifying into other areas of industry. After leaving the company, the pair brought the technology to Britain to develop it further for the clothing business.

Mr McCormack, technical director of Production Control Information, explains that monitoring of output is a perennial problem in clothing plants. At the end of each day of work, supervisors often find that machinists have failed to make up the correct number of garments. Stray pieces of cloth are likely to have gone missing in odd corners of the factory.

In the data collection system sold by the Sheffield company, each machinist has a small terminal, essentially a card reader, which is linked to the main computer over the telephone lines. With each bundle of cloth that has to be stitched together in a certain way, the factory employee is also given a small card. The card has on it two items of information — printed

instructions for the machinist as to how to sew the cloth together and a bar code similar to those on the labels of supermarket goods.

After the worker has finished the job he or she slides the card into the terminal. This relays to the central computer, via two intermediate computers or data concentrators, the information that the operation is completed. The machine also logs the amount of pay the machinist is owed for that particular activity.

The supervisor himself originates the cards, with the help of the main computer, after working out the operations that need to be accomplished to turn out a set number of garments. If for any reason output starts to fall short of the set quota, the relevant information is displayed on screens in the supervisor's office.

A system with about 200 work stations costs roughly £90,000. Mr McCormack says that much of the four years of development work comprised the perfection of software routines that transfer information in an efficient manner between the work stations and the data concentrators.

So far Production Control Information has sold the hardware to five clothing factories in Britain. The customers are Austin Reed, which has installed the equipment in its Crews suit workshop, Corah (Barnsley, skirts and other clothes), Double Two (Wakefield, shirts), K Shoemakers (Kendal), and Lux-Lux (Glossop, underwear).

The Sheffield company has signed agreements with distributors to sell the system in the rest of Europe and also hopes for sales in the U.S.

P.M.

Displays

Colour graphics controller

A MICROCHIP for the control of colour cathode ray tubes has been launched by Hitachi of Japan.

It makes possible high resolution graphics displays in applications ranging from personal computers to design workstations. The screen can be split into separate "windows" for the display of separate groups of

information simultaneously. All of these functions are built into the chip and so there is no need for complex software.

The importance of the new chip is that it packages in silicon at a price which could be as low as £100 in volume functions which otherwise require elaborate and memory-consuming software to accomplish.

Electronics

Ferranti's control chip

THE MICROCHIP at the heart of Black and Decker's famous electronic power drill is now available from Celdis, the electronic distributors.

Designed and built by Ferranti, the 2N 411E is a motor control chip designed using uncommitted logic array techniques.

It has a soft start capability, precise control and the ability to work in reverse. It comes as an 18-pin dual in-line package and will operate from the mains or a DC supply. It is ideal for power tools, lawn mowers, mixers and so on, Celdis says. More on 0734 585171.

Production

Metal folding

KEETONS SONS of Sheffield has developed a metal folding machine which can produce multiple bend workpieces in sequence from one head to the next.

Called the Hydroform SC20, the machine costs between £12,000 and £31,000. It can be programmed for Imperial or metric dimensions. This year it won the Machine Tool Industry Award for the Best Metal Forming Machine designed and built in the UK. More on 0742 663289.

Software

Quest for Sinclair's QL micro

QUEST AUTOMATION of Chandler's Ford, Hampshire, is to write a version of the Digital Research operating system CP/M-68K for the Sinclair 32-bit QL micro-computer.

The QL, as supplied presently comes with its own operating system QDOS, for which very few application programs have yet been written.

There is a rich library of programs available for machines running CP/M type operating system. More on 04215 66321.

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Office

Electronic filing

ANOTHER BASIC office "tidy" computer program has become available in the UK this time through the UK computer manufacturer ACT, which has been appointed by Starcom Corporation of the U.S. to distribute its "Files and Folders" relational database management and report generation system.

Utility programs are popular because they automate a small but defined area of office work in a way which means they can be used quickly and simply. Files and Folders, for example, is described as an electronic filing cabinet. "Anyone who has ever had to create their own filing system using an old fashioned filing cabinet will immediately feel at home with Files and Folders," James Blackledge of ACT, says, a trifle ambiguously. It costs £295; more details on 021 455 7000.

Analysis

Light from minerals

BOMBARD certain minerals with electrons and they luminesce, a fact which a Cambridge company Technosyn is exploiting in its new cathodoluminescence equipment.

Up to now the U.S. has made the running in this analytical technique; now Technosyn is claiming that its machines are intrinsically safer (electron bombardment produces x-rays) despite higher operating voltages.

The higher voltages means that minerals of special interest to the oil industry can be inspected. Technosyn has developed a high voltage cold cathode electron gun which operates with a simple rotary vacuum pump. More on 0225 212984.

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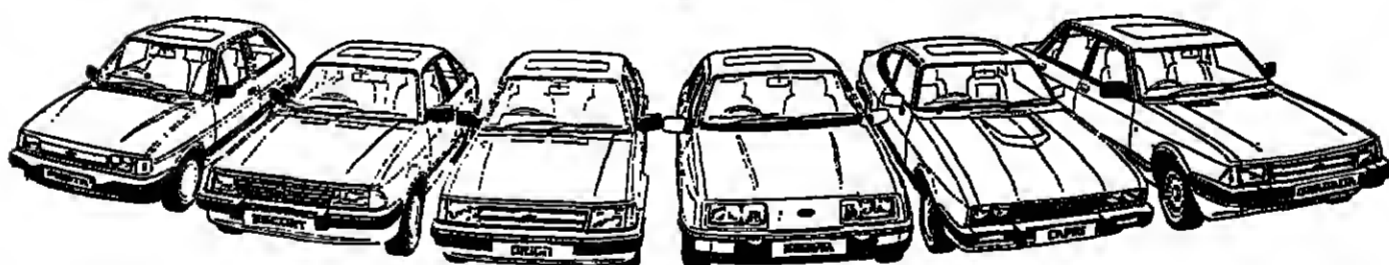


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APPOINTMENTS

ENERGY REVIEW

New chief for H & J Quick

After 27 years as chairman and managing director of H. AND J. QUICK GROUP Mr Norman Quick has decided the time for change has arrived. He will be succeeded by Mr Tim Worrall, who joins the board of Quicks on September 3 and will become the group managing director on January 1. Mr Quick becomes non-executive chairman. Mr Worrall joins H. and J. Quick Group after four years as managing director of GKN Autoparts (UK) division.

Mr John Lockman has joined EDWARD JONES GROUP from the International Hospitals Group as managing director of the company's health care establishments.

Mr G. Barrie Marsh, senior partner of Mace & Jones, has been appointed chairman of the HERESYDIE CHAMBER OF COMMERCE & INDUSTRY, LIVERPOOL, for the two years 1984-85.

Mr Robert J. H. Edwards, former secretary of the British Red Cross Society, has been appointed national director of the CHRISTIAN CHILDREN'S FUND OF GREAT BRITAIN, a project dedicated to the sponsoring of children to Third World countries.

Mr J. Barry Lewis, managing director of Schaubman (UK), has been elected chairman of the TIMBER RESEARCH AND DEVELOPMENT ASSOCIATION, and Mr Norman Mandy, chairman and managing director of Tower Timber Group, has been elected vice-chairman.

Mr Alan Cornish has been appointed to the board of GOOD RELATIONS GROUP as group finance director. He joins from RCA Records where he was vice president, European regional office. Previous to that Mr Cornish was, for seven years, group financial controller at Associated Communications Corporation.

Mr Richard Bearon has joined the main board of the A. J. GOODING GROUP as group operations director. Mr Bearon was formerly operations director of TI Raleigh Industries.

Mr Gordon Parkin has become the new director/general manager of WILTSHIRE HOUSING NORTH, He was surveying director.

LESSER LAND has appointed Mr Malcolm Teele as managing director following the resignation of Mr John Beatty, who is to become managing director of

Rickworth Securities, a Lesser Group subsidiary. Mr Beatty is to remain a main board director of J. E. Lesser and Sons (Holdings) as well as taking up his new post at Rickworth Securities.

Mr Jeremy Sayers is to serve a further three years as a part-time member of the SOUTH WESTERN ELECTRICITY BOARD.

GALLIFORD has appointed Mr Brendan Dodd as managing director of its Coventry based subsidiary MBK Motor Rewinds.

Mr John Leighton and Mr Jan Scheerbus have joined the board of AMEV (UK), the holding company for Gresham Life Assurance Society and Gresham Unit Assurance.

CHARLES SHARPE AND CO has made the following changes: Mr Robert Coy, chairman, and Mr C. Raymond Coy have retired as executive directors. Both will continue as non-executive directors. Mr E. H. Lidwood, who joined the board in 1957, has become chairman. Mr C. R. Johnson has joined the board. He was manager of the Roof, Seed department and is currently chairman of Unikale.

MATTHEW CLARK AND SONS has appointed Mr Martin Lyon operations director of Crokerton Haulage, part of the Matthew Clark Group.

KAE DEVELOPMENT has promoted Mr Tony Lucas to board director from senior market research executive.

VANDERHOFF COMMUNICATIONS has made two senior appointments. Mr Robert Panther has been appointed technical director. Mr Vanderhoff Communications. He was previously chief engineer. Mr Tony Frere has been appointed sales director, BAL Passive Components, Vanderhoff subsidiary.

Mr Tom Eley has been appointed vice-president and managing director, Europe by Paradyne. He joins Paradyne from Manufacturing Data Systems, Inc., a division of Schlumberger where he has been vice-president sales, since 1982.

VAUX BREWERIES has appointed Mr Frank Nicholson a joint managing director of its Sunderland brewery division, Vaux Breweries (Sunderland). He joined Vaux in 1981 as tied trade director. For personal reasons Mr Richard Pettit has resigned as managing director of Vaux Breweries (Sunderland). He will also be leaving the board of the parent company.

Nuclear reactors—a source of Finnish pride

By David Fishlock, Science Editor

RUSSIAN confidence in the two nuclear reactors which the Soviet Union has exported to the West is evident at Loviisa, the nuclear station just off the south coast of Finland. Their imprimatur, the words "Atomenergosexport, Moscow USSR," are emblazoned in bold capitals on all four turbo-generators and on the floor of each reactor hall.

They are pressurised water reactors, of the same basic type that Britain is planning to build if it passes the Sizewell public inquiry. Like the American PWR, its Russian counterpart was originally invented to power nuclear submarines.

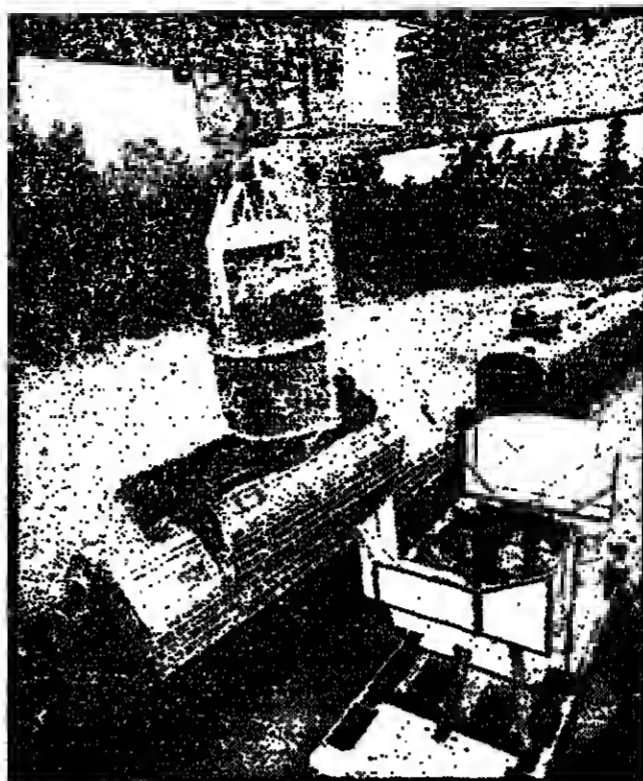
"Eastinghouse," as Americans have nicknamed their Russian rival, has exported its 440 Mw PWR—their equivalent abbreviation is VVER-440—to three Comecon countries, Bulgaria, Czechoslovakia and Hungary, and others including Poland, Romania and Cuba are planning to buy them. But the pride of the pack is Loviisa, and particularly its No. 2 reactor, for some bettered its 92 per cent load factor last year.

The Finns are heavy consumers of electricity, both in their energy intensive industries and for heating homes. Having virtually exhausted their hydro-electric resources, they turned in the 1970s to nuclear energy. Last year it accounted for about 40 per cent of their electricity, one of the world's highest proportions.

Simultaneously, two electricity companies each bought a pair of foreign reactors. One was the state-owned Imatran Voima Oy (IVO) which runs the national grid and also imports electricity both from Russia and from Nordic neighbours. IVO bought the two Russian reactors, each of 440 Mw capacity. The other is Teollisuuden Voima Oy (TVO) owned by 23 industrial companies, including IVO, which owns 18 per cent. TVO is Finland's biggest electricity producer, all of which comes from a pair of boiling water reactors (BWRs) of Swedish design each of 660 Mw capacity, bought from ASEA-Atom.

Thus the Finns have readily comparable experience with two different nuclear systems, installed over the period 1975-82. They have also enjoyed a degree of access unique in the West to PWRs in the Comecon countries.

The Loviisa reactors were a joint venture, intended to split equally the cost of work done,



A spent fuel cask is transferred from trailer to container wagon at Loviisa railway station.

with Russia providing the nuclear steam supply system and turbo-generators, while Finland poured concrete and provided control, safety, ancillary systems, etc. In the event, Finland suffered rampant inflation during construction, while Russia adhered to its fixed-price contract, so two-thirds of the value went to Finnish industry.

The Loviisa reactors are built on a tiny island of granite inhabited only by elk. Fewer than 50 people live permanently within five kilometres, although several times as many have summer homes nearby. The island could accommodate one or two more reactors the engineers say.

Although a contingent of up to 900 Russian technicians camped at Loviisa during construction none now remain but the Russians are remembered as a strong supplier, they were really cared, by Mr Antero Tamminen, the station manager.

Mr Tamminen, a nuclear engineer, has made several trips to Novovoronezh 5, the first Russian 440 Mw PWR, and regularly exchanges visits with his opposite numbers running PWRs in Bulgaria (the first nation to have an export Russian reactor) and Czechoslovakia. None matches the performance of his No. 2 unit last year, he says proudly. Where the others are achieving load factors of about 80 per cent—good by Western standards—his best unit notched up 92 per cent.

Even he doubts that he can maintain this load factor but he would not be disappointed if it should fall to 85 per cent.

The main reason why Loviisa performs so well is the care everyone took during its construction. Mr Tamminen believes. For the Russians, it was export-quality engineering added to a conservative design. Expensive materials such as stainless steels have been used generously.

For the Finns, indigenous traditions of quality control and assurance were reinforced by the expertise of the Swiss consulting engineers, Electrowatt. They claim their latest requirements on nuclear safety are tougher in some respects than those of the U.S.

One design feature currently exciting American interest is the choice of horizontal steam generators, where U.S. practice is to mount these massive components vertically. It reduces the height of the reactor hall and its containment. But the

done as part of the case TVO engineers were assembling for the nuclear licensing authority, for permission to raise the output of each reactor by 8 per cent.

Loviisa has no such plans to increase reactor output. But Mr Tamminen points out that his 440 Mw turbines have in fact been delivering up to 465 Mw by virtue of the low temperatures of cooling water drawn from the icy Baltic.

Where Olkiluoto and Loviisa differ most conspicuously, however, is in the provisions for fuel and its disposal. Loviisa orders its fuel each year from Russia, under a contract that stipulates the return of all spent fuel. The Russians send their own train and crew to collect the radio-active spent fuel. In effect, the Finns are merely leasing fuel for five years—two in the reactor and three to cool off before collection.

Olkiluoto's fuel is made mainly in Sweden although some has been made in West Germany. Russia is enriching uranium for this fuel. But Russia refuses to take spent foreign fuel.

The Chinese have recently offered to take it, but at a price TVO engineers say is "completely out of the question." Sweden also agreed in principle to take some fuel for storage in subterranean pools in its CLAB interim storage project, but again at a price the Finns found unattractive.

TVO has therefore begun a small-scale version of CLAB, hollowing granite pools on the island close to its reactors. It will avoid the expense and trouble of transport. But the TVO engineers also see the \$50m initial investment as a spur to those offering reprocessing and storage to cut their prices if they want export business.

The Finns have laid plans for final disposal of highly radio-active waste. They are to have a facility ready by 2020, says Mr Ilkka Mikkola, manager of TVO's fuel office. They have just begun test drillings for possible sites.

In an office in Helsinki dominated by a huge ceramic-coated stove, a senior civil servant explained the nuances of Finnish nuclear policy. After France (about 50 per cent) and Scotland (41.5 per cent), Finland depends more on nuclear electricity than any other nation. It has outstripped hydro as the dominant source. Their problem is when to build

The official assumption is that electricity demand will continue to grow at an average of 3 per cent a year to 1985. The 11,000 Mw of installed electrical capacity is expected to meet this growth to the early 1990s. Assuming a new tranche of nuclear capacity will take seven to nine years to install, a decision is needed "soon"—this year, the nuclear industry says.

Others, wary of the big investment, counsel caution. They argue that the Government's energy conservation policy could depress demand, and that even if the nation ran short it could always import more from the Soviet Union. Russia has relatively few things the Finns are willing to take in exchange for the consumer and industrial products which they are eager to export.

Unlike other western nations, Finland has no significant opposition to nuclear electricity. People are proud of the country's nuclear performance and even know which reactor performs best. When Parliament decides it is time to expand further, the choice is purely economic reasons—is expected to be more reactors.

The big question is how many and whose reactors. The Finns see five options: more Russian reactors, either two 500 Mw PWRs (uprated 440 Mw reactors) or one 1,000 Mw PWR; one or two Swedish BWRs; or a 900 Mw French PWR.

The Government says the present suppliers are the leading contenders, with France the outsider, for a project likely to go alongside the Olkiluoto reactors but to be managed jointly by the two nuclear utilities.

The utilities are currently making an assessment of the 500 and 1,000 Mw Russian reactors. Although no tenders have been invited, "the bigger one seems to be the more economical at the moment," says Mr Perttu Simola, secretary-general of the Finnish Energy Economy Association. The study should be finished this autumn.

The Swedes, on the other hand, have gone "overboard" on nuclear safety and may have priced themselves out of the market, he says. But he adds that they have been offering cut-priced models in Turkey and Mexico.

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June 1984

THE ARTS

Television/Christopher Dunkley

Three causes for concern

Though television is checked by bright and highly educated people, many of them exceedingly ambitious, it does sometimes seem to be the only strategic thinking about programmes that they ever manage to do...



Sue Cook, one of the presenters of Crimewatch UK

That being so, and remembering the anxiety within television over the image of the medium, it seems odd that so little attention is paid (or so it seems) to such a crucial question as programme ethics...

Paris Opéra

A troubled Tannhauser

The ghosts of Wagner, of the puffed-up tenor Niemann and the culture-vulture ambassador Pauline Metternich, stalk the new Paris Tannhauser...

form efficient choreography by Ivan Marko, not in any way apparent to me integrated with scene or action. Venus and Tannhauser, meanwhile, sleep head to tail on an airport lounge sofa...

Ronald Crichton reports on a long night at the opera

hattered tribly hats. When they look back they wear more varied headgear—souvenirs, or signs of grace? Szabo has arranged the processionary march rather well...

The lullabies of London

Michael Coveney puts on the Ritz —with Pizza

Piano-playing cabaret entertainers of the highest class are a rarity in London, so it is London's great good fortune to be playing host to two such animals simultaneously...

light entertainment and is usually the source of more embarrassment than fun. Mr Greenwell, however, is not remotely embarrassing even when drolly following Coward in pursuit of Uncle Harry...



Steve Ross

Othello/Coliseum

Clement Crisp

It is the directness and simplicity of the Dance Theatre of Harlem's manner that give special and rewarding a quality to company performances...

Pas de deux: Eddie Shellman and Judy Tyrus



Pas de deux: Eddie Shellman and Judy Tyrus

As such its worthiness might seem almost irreproachable. But mild doubts about the relish with which bloody detail was presented in the first edition...

Saleroom

A rediscovered bust in marble by Rodin of Manon Lescaut sold for £70,500 at Christie's yesterday. It had disappeared into a private English collection in the early years of this century...

Arts Guide

Theatre

Little Shop of Horrors (Comedy): Campy off-Broadway import, which is less good than The Rocky Horror Picture Show...

London home with a fresh young cast of good singers and dancers. The thrills and spills of Bernstein's score and the Robbins choreography remain breathtakingly intact.

backstage to loneliness incorporates all the wild histrionics in between, down to the confrontation with his doting Jewish mother.

Washington: Henry V (Folger): Philip Kerr directs the resident acting company led by Edward Gero as the charismatic Henry to the field of Agincourt.

Written originally by Noel Coward for an American production with himself, Lynn Fontanne and Alfred Lunt, Design for Living might have settled more comfortably into its present revival at the Circle in the Square (Uptown)...

Design for Living/New York

Frank Lipsius

cast with matinee idol good looks and some glib nonchalance, but they do not always project the glint of daredevil irresponsibility that Coward wrote into the parts, especially for Leo...

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Wednesday July 18 1984

Britain and Nigeria

THERE HAS BEEN AN ominous feeling of inevitability about the deterioration in Anglo-Nigerian relations...

Britain's aggressive North Sea oil production and marketing strategy, directly undermining Nigerian production...

Close allies Britain is now the object of much vilification and abuse in Lagos, and Nigeria of both hostility and ridicule in London...

As regards Nigeria, the urgent need for both sides is to repair the damage already done...

As for Britain, the government has consistently underestimated Nigerian sensitivities on a range of issues...

The correct course of action now is for Nigeria to apply for the extradition of Mr. Dikko and Mr. Wokoma...

Buses running out of control

WITH ITS enthusiasm for market forces toned down a trifle, the White Paper produced by Mr Nicholas Ridley...

particularly encouraging. In two of them—Norfolk and the White Paper operators...

Lower costs The Government claims that more competition, the break-up and privatisation of the National Bus Company...

Hidden tax Nobody has ever doubted that private operators could provide a profitable route...

The future of GEC

IT IS unusual for the General Electric Company to be manoeuvred into a corner by a corporate quarry...

Lord Weinstock, GEC's managing director, and his colleagues are genuinely interested in BAE. But their next move may hinge on the attitude of the Government...

Long-term view In recalling the British High Commissioner from Lagos...

As regards Nigeria, the urgent need for both sides is to repair the damage already done...

Lord Weinstock, GEC's managing director, and his colleagues are genuinely interested in BAE...

The rationale behind the de-merger option has been based partly on concern that GEC, because of its size...

Lord Weinstock, who turns 60 later this month, will not reach GEC's mandatory retirement age for another decade...

Growing over Jaguar While many would-be investors are licking their lips over the prospect of Jaguar coming to the market...

Hidden tax Nobody has ever doubted that private operators could provide a profitable route...

Lower costs The Government claims that more competition, the break-up and privatisation of the National Bus Company...

The test that faces Lord Weinstock

By Guy de Jonquieres

GROUP TRADING PROFITS

Table with columns for Profit before tax (1984, 1983), Turnover (1984, 1983) and various business categories like Electronic systems and Telecommunications.

flowing into its London headquarters in Stanhope Gate. Failure by any part of the group to perform to expectations...

Lord Weinstock, GEC's managing director, and his colleagues are genuinely interested in BAE...

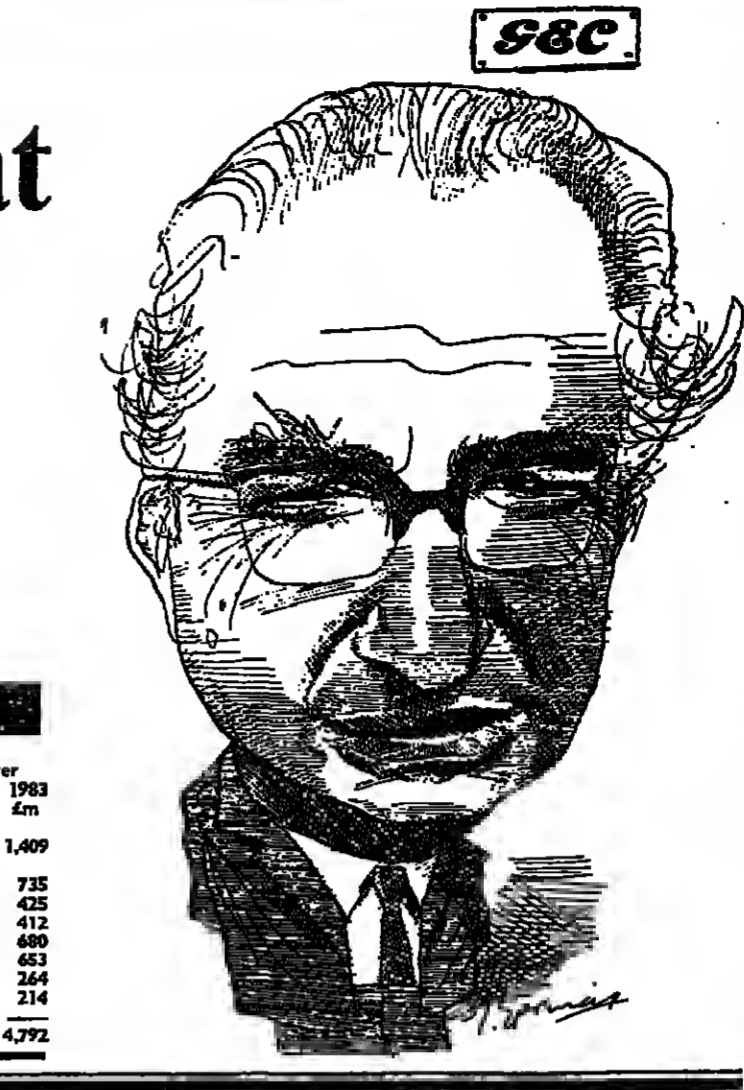
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machine manufacturer W and T Avery for \$30m. The following year it acquired U.S. medical electronics manufacturer Picker International for \$110m.

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GEC

grated circuits. Even in telecommunications, its second biggest business, GEC plays a sub-contractor role to Plessey in the development programme for System X...

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Lower costs The Government claims that more competition, the break-up and privatisation of the National Bus Company...

Men and Matters

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FINANCIAL TIMES SURVEY

Wednesday July 18 1984

VIDEO
AND BROADCASTINGBig challenge for
programme-makers

By the end of this year, the world should have a population of 60m videocassette recorders. Statistics such as these have kept the adrenalin flowing in the relatively new consumer business—invariably focusing most of the attention on the hardware manufacturers, their achievements and their economic battles.

Yet every new VCR is generating further business for others beyond the factory gate, and even though some Japanese electronics manufacturers now have more than 50 per cent of their turnover in video, the programme makers, dealers and facilities companies have experienced a very welcome boost to business, too.

When one video programme—*Making Michael Jackson's "Thriller"*—is expected to achieve world sales of over 1m units, clearly there is money to be made out of video for others as well as the manufacturers.

Video arrived just in time for the UK television rental companies when the public was switching to the purchase of TV sets; at its peak VCR rental accounted for about 75 per cent of all machines in British homes.

It also provided a new market for feature films—not only the block-busters and the so-called "collectibles" (Bogart to Buster Keaton)—but, surprisingly, for some of the movies which did not do so well in the cinema.

London's Soho, possibly the world capital of the video facilities business, has also benefited substantially. Where once their customers were production companies working for a narrow market sector (industry, advertising and broadcasting) they now serve a mass consumer market too.

At the end of this newly-created chain of business are the dealers—in the UK alone variously estimated to number

JOHN CHITTOCK
looks at changing
retail markets and
the impact of the
video industry
beyond the factory
gates.

10,000-14,000 retail outlets for video programmes alone. The local photographic shop will never be the same again either with even the familiar yellow Kodak sign now signifying videotape as well as film (and, soon, video cameras).

That has been the success story, tinged with some upheavals to traditional businesses. But a down-side is emerging for many, and as the industry gets its second wind the familiar signs of competition are bringing a shake-out for the weak, the inefficient or those unable to adapt.

For the TV rental companies, renewal rates of VCR rental contracts have been falling as

more consumers buy their machines. Less than 50 per cent of UK's machines are now rented and the Granadas and Radio Rentals are painfully aware of the need to diversify.

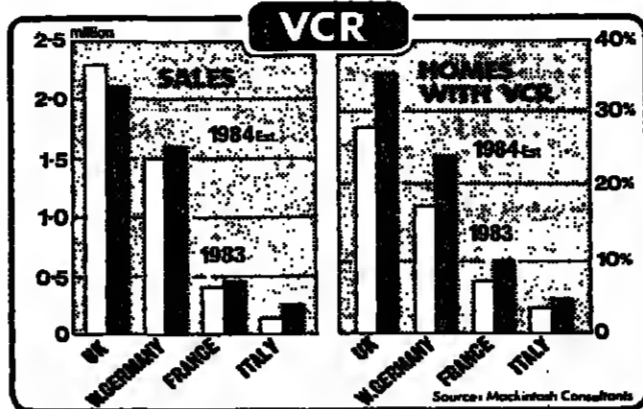
The rental and sale of video programmes has been, of course, an important extra product line for many TV rental shops—but this end of the business is now experiencing a certain amount of blood-letting. Some video programme shops have partly brought it on themselves with fierce competition—not only opening on opposite sides of the same street, but slashing rental prices to as low as £1 per night.

One current forecast is that 3,000 video shops will close in UK by the end of this year. That possibility must be kept in perspective, of course, because there were far too many in the first place.

Nonetheless, the programme distributors have been alarmed at declining rentals when a year or so ago business was booming. The falling off is blamed partly on the novelty of video wearing thin; also on the growing determination of customers to be more discerning and not to just rent or buy any old titles.

The industry's response—more realistically going to the heart of the problem—has been to attack its own pricing structures for software. It does really seem extraordinary that the boom in programme sales and rental occurred against a background of prices sometimes exceeding £40 for a feature film.

In the case of one important distributor, Warner Home Video, none of the titles from this leading Hollywood studio were available on sale at all, only rental. Dealers were obliged to lease the cassettes from Warner on a basis which returned more on each rental—albeit relieving the dealer of a large capital outlay in buying titles outright.



The video and broadcasting industries have entered a period of rapid expansion and change, with major uncertainties and opportunities. Satellite broadcasting and cable television are following swiftly behind the video boom, forcing the traditional broadcasters to re-assess their role and future.

Leasing schemes have been controversial, however, and the cut-throat shops with titles (sometimes pirated copies) at £1 per night caused severe problems for others committed to regular leasing payments. Warner has now reluctantly abandoned its leasing system, and so, too, has RCA/Columbia (who also sold cassettes).

The bad news for the dealers, however, is that those whose libraries were built up on leasing stocks are now faced with the prospect of a large capital outlay to maintain their libraries.

New approach

Meanwhile, other distributors are trying to kill off the high price/low volume mentality and are beginning to offer dealers even top flight films at drastically reduced prices—such as CIC's *An Officer and a Gentleman* at £13.50, retailing for as little as £10.

This more realistic approach begins to bring the videocassette of a movie into the price range of a hardback book. When that happens, print publishing may never seem quite the same again.

For the video facilities industry, which has found such important new business through consumer video, signs of similar competitive trends are not difficult to find—especially where the volume

work of video duplicating is concerned.

Some companies, such as CBS/Fox, have their own duplicating operations—and now have acquired a front end mastering facility.

Where the industry is less price conscious is in the highly-specialised post-production services, which are less relevant to the preparation of feature films for video release—more involved in the technical chain of new, original video productions. The services range from complex video editing suites (where the capital investment in a tiny back room could buy a house in Chelsea) to studios with all manner of back-up facilities (some including jam-line links to the Post Office tower, others satellite down feeds).

The high technology of this end of the business has created its problems, too.

One of the market leaders, Molinare, has had a troubled 18 months—surrounded by some of the most sophisticated equipment in any European facilities house, a nightmarish overhead for anyone to manage. New broom Gerhard Wick is finding one way to revive Molinare's fortunes—seeking business in Europe. A major drive there is hoped to attract £1m extra revenue to add to a claimed £1m now coming from Spain.

Britain certainly is attracting overseas business, with our prowess in technical talent and



● A new development by Kodak into the world of video: the local photographic shop will never be the same again, with even the familiar yellow Kodak sign now signifying videotape, as well as film and, soon, videocameras.

Video recorder
sales boom

SALES OF video recorders throughout most of the world are continuing to boom. The notable exception is Britain, which is the first market to mature, with sales in 1984 expected to be lower than last year.

The still youthful video recorder business is beginning to mature in other senses. The long expected shake-out of the three incompatible VCR formats appears to have started with Philips and Grundig, proponents of the V2000 system, now committed to selling the rival VHS format in Europe.

In addition manufacturing has begun to move slowly to countries other than Japan which has so dominated the VCR business. All the same Japan is currently making about 2m videos a month, the great majority of world production.

The sales boom has been greatly helped by the U.S. which, after a slow start, is now by far the largest market for VCRs. Sales there are expected to rise 60 per cent in 1984 to 6.6m machines. By the end of the year 19.2 per cent of U.S. homes with television will have a VCR.

The slow initial interest in VCRs in the U.S. has been explained by the high level of cable TV there, which is available in over 40 per cent of homes. The recent upsurge in interest in VCRs has given some hope to those who fear that conversely the high penetration of VCRs in Britain will blunt its appetite for cable.

The factors influencing the demand for VCRs in each country differ considerably. A

wide availability of TV programming—either broadcast or cable—appears to slow the growth of video. The lowest penetration of VCRs in Europe is in Italy where the liberalisation of broadcasting has resulted in a very wide choice of stations.

In Britain the limitation of four broadcast channels and very little cable TV appears to have been a stimulant. Another factor has been the quality of broadcast TV. The generally acknowledged high standard of British broadcasting means it is worth recording programmes off air to watch at more convenient times.

There are a number of explanations for the relatively poor demand for videos in France. In the past the government made it difficult to import VCRs, most notably through its short-lived but infamous scheme which insisted all imports should be routed via a customs shed in Poitiers. But VCRs attract a high luxury tax in

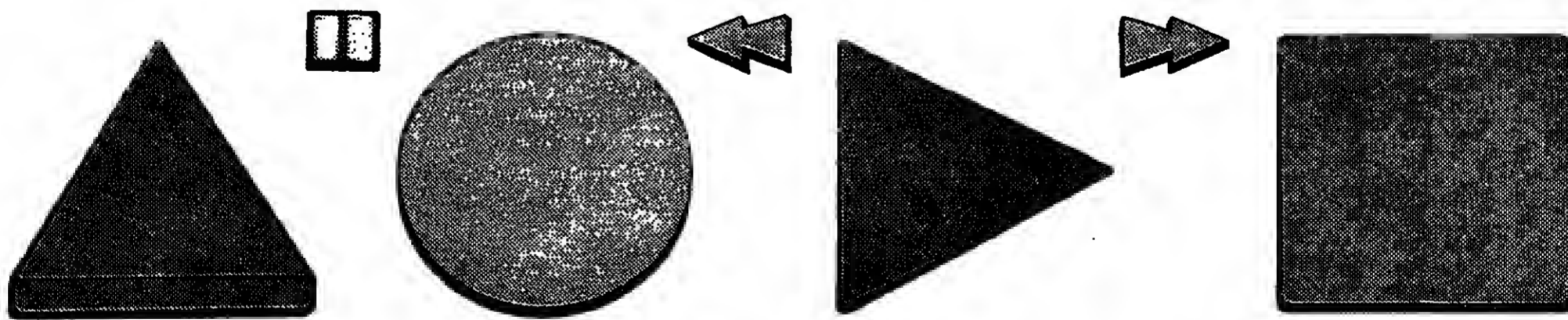
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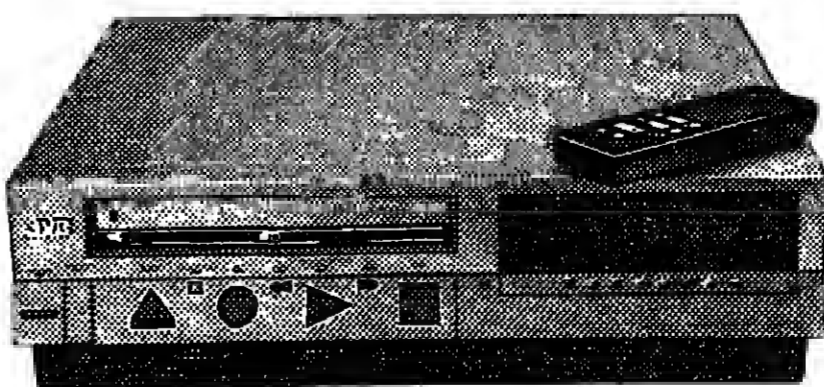
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BASIC LANGUAGE.



The new HRD 110 video recorder is advanced technology in an easy-to-use form. Working on their belief that brilliant ideas are usually very simple, JVC have produced a video recorder that has all the essential and up-to-date functions you need, without any of the complications.

A simple timer and one-button recording mean that you can easily set and record in a hurry if you have to. Once recorded, you can quickly find any picture you want by using the high-speed Shuttle



Search, and focus in with our special Picture Sharpness control. If you want to take things more slowly, the HRD 110 has a Still Frame and Frame Advance facility.

Operation of these advanced functions is through a panel of simple and elegant 'symbolic' controls handily set in the front of the recorder.

This is easy sophistication that's easy on your pocket. But if you want the additional refinement of infra-red remote control, take a look at the HRD 120. It's the same machine, but with that little bit extra.

JVC

You've either got it, or you haven't.

VIDEO AND BROADCASTING 2

A sales boom for VCRs

CONTINUED FROM PREVIOUS PAGE

France and have to have an annual licence.

It is also suggested that French television is too boring for anyone to record. More charitable explanations note that the French have better than their neighbours to do with their lives than watch television at all.

While demand is still buoyant in the rest of the world the industry is now paying close attention to what is happening in the UK to see if it indicates a pattern which will be echoed in other markets.

Eighteen months ago the UK was the strongest video market in the world. Sales were only fractionally less than Japan—with twice the population—and the highest in any industrialised country. According to a half yearly survey by Screen Digest, Britain will still be the third largest market in 1984, buying 1.8m videos in 1984. On that basis 40 per cent of UK homes with TVs will have a video at the end of this year.

The British video market has been very weak for several months and other estimates suggest the figure may be as low as 1.5m compared with 2.2m in 1982. The problem has largely been felt by the rental industry which was partly responsible for the boom in the first place. The rental companies are reluctant to give details but it is thought the level of returns has been so high in the first part of the year that the net growth in VCR rental placements was nil.

“There is blood all over the place,” said British Electric Traction as it proposed to sell its Redifusion TV Rental subsidiary to Granada.

The rental market is particularly critical to demand in the UK as it accounts for about half the VCRs placed. The unanswered question is whether people who return rented VCRs then go and buy the product—as has been happening with colour TVs—or they are learning to live without it.

The past strength of the UK video market has been one of the reasons many of the Japanese manufacturers have set up



assembly operations in Britain. All the major Japanese producers have some form of assembly operation in Europe.

Most of the assembly operations are limited and unprofitable, according to industry observers. The plants have been set up partially to counteract the growing European objections to the imbalance of trade caused by VCRs. In addition they help sidestep voluntary import restrictions between the EEC and Japan and provide a base within

The past strength of the UK video market has been one of the reasons many Japanese manufacturers have set up assembly operations in Britain.

Europe should protectionism worsen.

In the UK Sanyo, Mitsubishi, Sharp, Toshiba and JZT make VCRs. Matsushita, Hitachi, Sanyo and Sony are also making videos in West Germany in addition to Philips, Grundig and JZT. After Philips and Grundig, JZT is Europe's largest producer of VCRs making over 600,000 units a year at plants in Berlin and Newhaven, Sussex.

JZT is a joint venture between Britain's Thorn EMI, Victor Company of Japan (JVC) and Telefunken, the West German consumer electronics group now owned by Thomson of France. The joint venture employs over 1,000 people and has been moving fairly quickly towards local procurement of parts.

Thomson of France has begun to take an increasingly important role in Europe's video

recorder industry. The company currently assembles the VCR mechanisms at two factories in France. At the moment the company is assembling parts imported from JVC in Japan but is moving towards local supply. Eventually Thomson intends to make drums which carry the tape and contain the recording heads. This is the most critical part of VCR manufacture involving exceptionally fine tolerances of engineering for a mass produced item. Thomson mecha-

nisms are sold, at present, to JZT although other Japanese producers have shown an interest in purchasing from it.

Thomson has a research and development and design capability which it hopes will give it complete independence from the Japanese. Mr Rudolf Barkhul, industrial manager for VCRs at Thomson said earlier this year: "We must have the total technology. Today we have the technology to do the electronics—the great part of video is just TV technology. We also have the specialist servo technology to drive the motors. The only thing we do not know is the mechanical part."

The most widely anticipated event in the VCR industry this year was the move by Philips and Grundig into the VHS format. The Philips developed

V2000 format had only ever had modest success in a very limited number of markets such as the Netherlands and West Germany. It was not even a contender in the U.S. or Japan and failed badly in the UK.

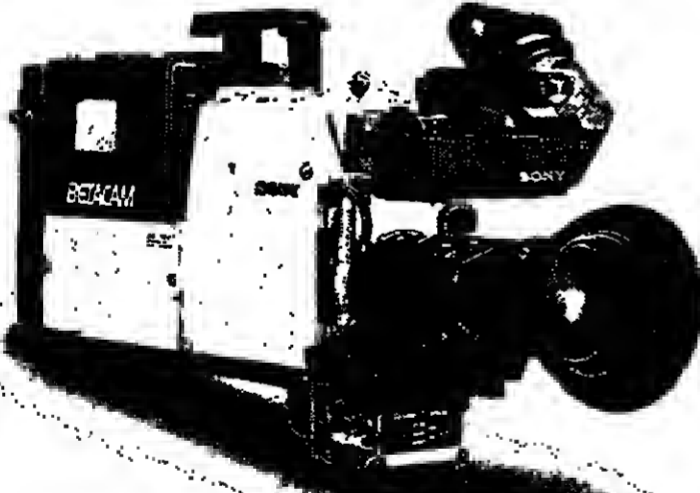
Last year Philips acquired a licence to the VHS technology from Matsushita. At that time it was said Philips and Grundig would only make VHS videos for markets where V2000 was not sold such as North America, Asia and Australia. In March Philips made the key announcement that it would sell VHS in the UK. Even though the company was at pains to say this did not mark the end of the V2000 format there were few in the industry who were convinced.

Production of VHS recorders beginning at Grundig's plant in Nuremberg and Philips' factories in Vienna, Austria and Krefeld in West Germany. The company has more recently acknowledged it will also sell VHS in continental Europe. The move now focuses attention on the Beta format, developed by Sony.

Sony's Beta format has about 25 per cent of the world market and its main supporters are Sanyo and Toshiba. But the number of Beta supporters has been falling. At the beginning of this year Zanith, one of the leading consumer electronics suppliers in the U.S. and the only one supporting Beta, switched to VHS. Toshiba too to make VHS recorders at Plymouth in the UK to supply the European market where the JVC developed format is strongest.

While the world markets for video continue to grow strongly the pressure on Beta is not expected to be too fierce in the immediate future.

Light-weight High Performance



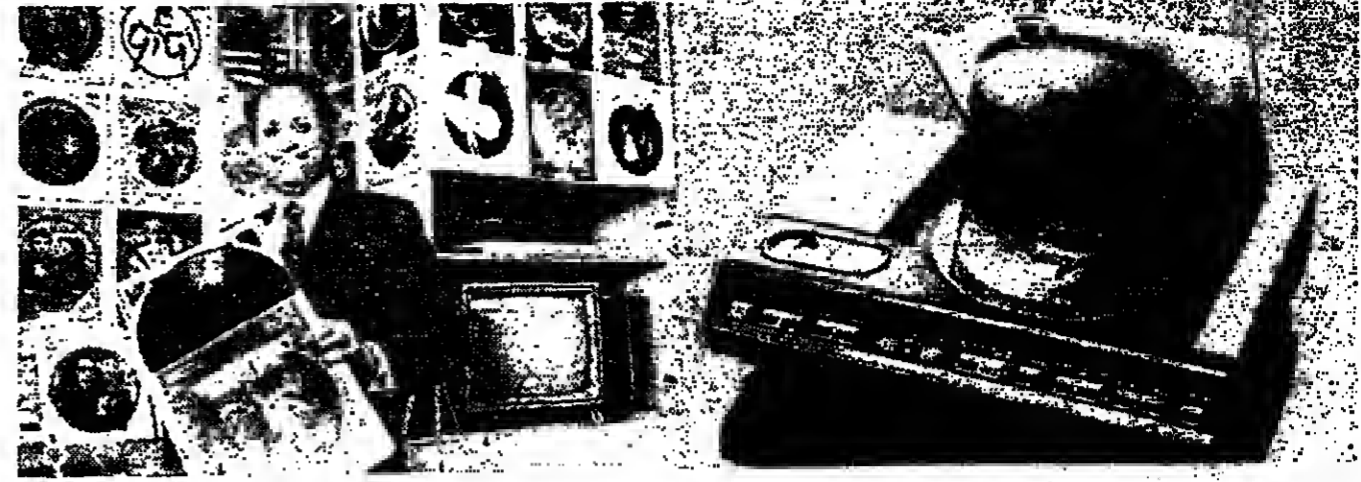
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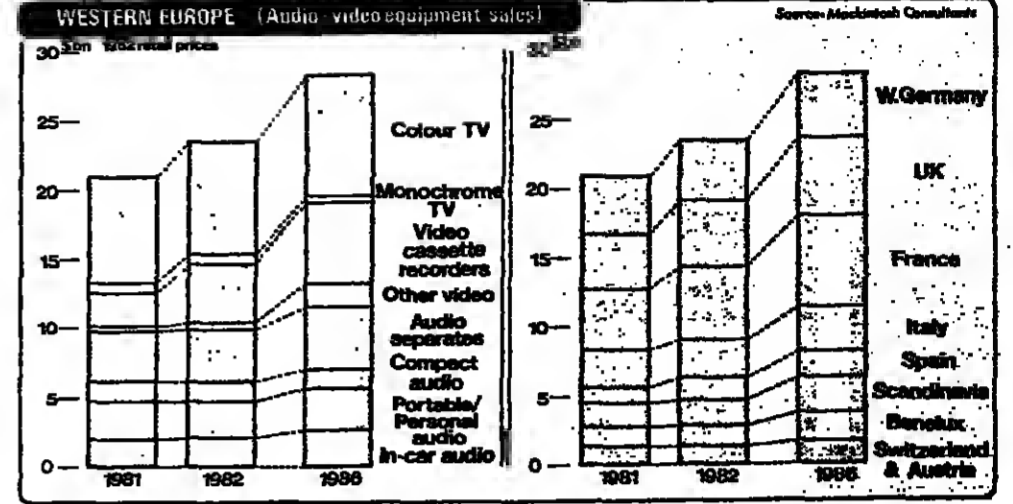
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In happier days, an RCA official (above) spoke in 1981 of "video disc fever" as 5,000 retail outlets in the U.S. were offered a wide range of feature films and programmes on video disc. This year RCA suddenly announced it was ending the production of CED video disc players, having lost \$800m on its video disc activities.

RCA is still producing discs for its machines and, like other suppliers in the field, has been rapidly increasing the proportion of music discs and pop videos.

Philips Laservision video disc system (above, right) is the most expensive and sophisticated of the video disc systems with excellent pictures and facilities interactive systems



The one bright spot for the venture is in commerce and industry

Videodiscs stay stuck in the groove

By Jason Crisp

WHEN RCA, the U.S. publishing and electronics giant, abruptly announced in April that it was ending the production and marketing of CED video disc players, even its main competitors were concerned.

The home video disc business has steadfastly refused to take off, despite hundreds of millions of dollars of investment and extensive promotion. RCA's withdrawal from the market means there is now much less effort being put into making video discs a mass market product.

For RCA it was a remarkable decision. When it launched its CED video disc system in the U.S. in 1981 RCA described it as "the priority project for the decade." Video disc was RCA's biggest product launch since colour television.

In three years RCA lost well over \$500m on its video disc activities, which included heavy promotion, price-cutting. Last October it also launched the CED video disc system in Britain in conjunction with Hitachi of Japan on the grounds that if a new video product could not succeed in the U.S. it would not succeed anywhere. As yet it has not been withdrawn but sales have been very limited.

Most of the world's leading electronics groups were working at some time on developing video discs including Philips, RCA, Matsushita, Victor Company of Japan (JVC), Sony and Pioneer. Only three systems—each incompatible with the other—have been developed to a commercial production level.

The three systems are:
● RCA's Capacitance Electronic Disc which was also known as Selectavision. It was the cheapest and least sophisticated of the three systems and was launched as a home system in the U.S. in 1981 and the UK in 1983. The disc has a very fine groove which is tracked by a stylus with an electrode.

● JVC's VHD system which is more sophisticated than the RCA system with better quality pictures. One point which is very important is that it has interactive facilities because the player can move very quickly to any part of the disc. This means it can be used as part of a learning or training system.

Smooth disc
VHS is a smooth disc (which like CED has to be loaded into the player from a special protective holder) covered with a very fine spiral of "pits," read by an electrode gliding over the surface.

The VED system was launched in Japan after a succession of delays in 1983 as a home product. Thorn EMI in Britain which had intended to launch it as a consumer product abandoned such plans which meant writing off a \$20m investment in a disc pressing plant in Swindon.

But that investment has not been a complete waste as late last year Thorn EMI entered the thriving professional and industrial video disc business with VHD players and is using the Swindon plant on a limited basis.

Philips' Laservision video disc is the most expensive (although it has cut prices dramatically) and most sophisticated system with very good quality pictures and facilities for interactive applications.

The silvery optical discs are covered with billions of minute pits which are "read" by a fine laser beam. It is the same system which is used in the new Compact Disc audio equipment. The discs are not easily

damaged and need no special protection.
Laservision was first launched in the U.S. in 1978 on an initially limited basis and is also available in Japan and much of Europe. As a home system it has not had much success so far, but like VHD it is having better reception in the industrial market.

Why has the video disc been such a failure, so far, in the domestic market?
Clearly one of the biggest single reasons has been the video recorder which became generally available several years earlier.

Videodisc pictures are a little better than those from a VCR and most video disc players have stereo sound and are also a lot cheaper. But they cannot record broadcast programmes which gives the VCR such an advantage.

Another significant factor in the slow demand for videodiscs has been the lack of available programming or software. When RCA and Hitachi launched CED in Britain last year there were only 100 titles available ranging from feature films to children's programmes. At that time, Philips' Laservision only had 400. Anyone buying a videodisc player would probably only want to watch a few hours out of the available programming.

The third factor is the marketing of video discs. Most companies have been selling the disc as a straightforward video product in competition with the VCR, emphasising the price difference of the hardware and programming. However, the hardware price differential has never been enough for people to forgo the advantages of the VCR. As most people rent video tapes, the price of discs still could not compete.

It is only recently that the video disc suppliers have recognised the products' attraction as an audio product. The best-selling discs have consistently been pop videos. Both Philips and RCA, which for the time being is still producing discs, have been rapidly increasing the proportion of music discs.

One problem of selling video discs as an audio product with added pictures is that it puts them into competition with another fledgling product with major potential in consumer electronics—the Compact Disc. But this is not stopping Philips from introducing a special 3-in video disc for music.

Bright spot

There is one real bright spot for video discs in commerce and industry. The interactive abilities of video disc players make them a potentially powerful tool for education and training. Many leading companies such as motor manufacturers, banks and computer companies are starting to use video disc systems for internal and external communications.

For instance, late last year, IBM placed a major order for Laservision players which are being used in dealers which sell the U.S. computer giant's Personal Computers. The system can both teach the sales staff how to sell the PC and will also help customers learn about the product.

While the future of video discs in the home still appear to have an uncertain future there is little doubt that there is a major market for the product in commerce and industry.

New Media Markets

VIDEOTEX, TV, SATELLITES, VIDEO, RADIO, CABLE TV

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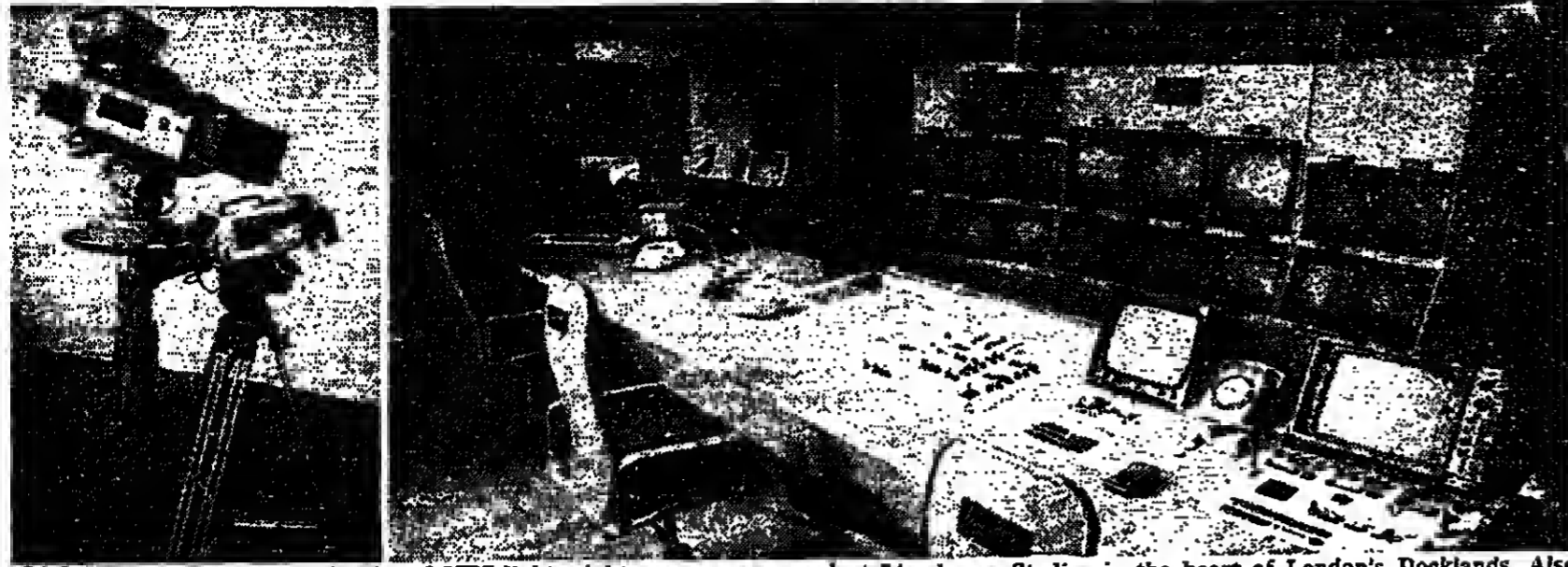


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VIDEO AND BROADCASTING 4



Link 125A studio cameras (left) and NEC lightweight cameras are used at Limehouse Studios in the heart of London's Docklands. Also seen here is the studio one production gallery

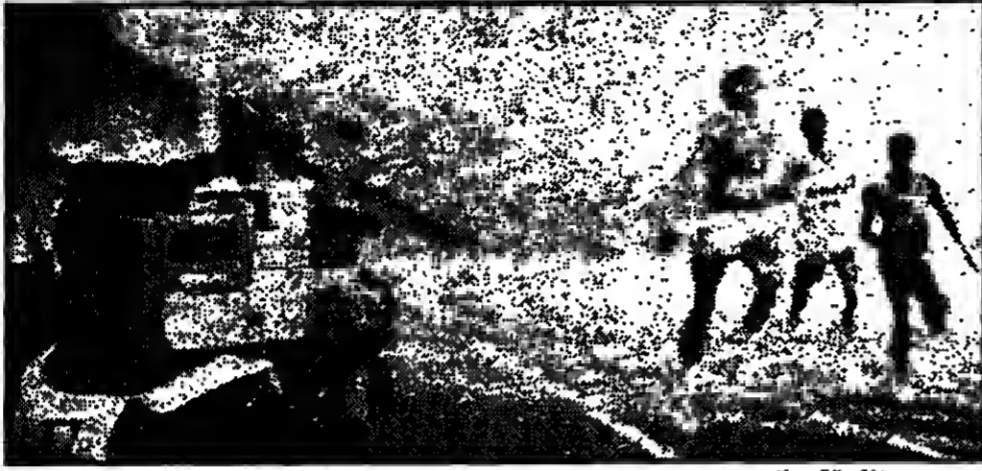
Gamble on the narrow format

JOHN CHITTOCK
on the 8mm video market and its attempts to make up lost ground

A SMALL group of the world's leading video journalists recently met in Paris as guests of JVC. Two topics of conversation dominated their discussion, confirming the burning issues of the day in the international video business. One was the evergreen matter of Japanese exports to the West. The other, 8mm video.

Although the French journalists present prolonged the import-export discussion, it became clear that this subject has now been exhausted to death. Indeed, one well-informed journalist showed his weariness by suggesting that the Japanese export of 8mm was now more relevant; another even suggested that VHS really stood for Very Hot Saki.

The reason that 8mm video now sweeps all before it as a preoccupation of the business is not technical, nor even economic. Close analysis of the so-called 8mm videotape format reveals none of the benefits mutually ascribed to it, and the cause of all the excitement is really Kodak's decision to enter the consumer video market on the back of this narrow tape format. The excitement has been given further hype by decision.



Lightweight camera technology: the Betacam system in use at the Mediterranean Games at Casablanca

Polaroid later making a similar 8mm format offers a combined video recorder and camera designed—in the words of Kodak—to simplify and popularise electronic imaging among amateur photographers (as the hybrid is now called) promises to do just that, although not uniquely for 8mm. The equipment is of weight to amateur film movie cameras, and is certainly no more difficult to use.

Since Kodak in particular have taken what some might describe as a recklessly long time to enter the video business their decision to be the first to market 8mm video represents a bold attempt to make up for lost ground.

Although the technology and the hardware are Japanese,

Kodak are using their marketing strength—and their understanding of the consumer image-taking business—to leap ahead of the field in what they see as the new generation of home video recorders, especially for a company that has been the market leader in photography for nearly 100 years but now sees video eroding that leadership.

But despite the early excitement generated by Kodak's decision at the start of 1984, more and more analysts and experts in the video industry are giving 8mm video the thumbs down.

The advantages claimed for 8mm are: compactness and light weight of equipment, small size of cassette, availability of FM audio sound, and—most conjectural of all—adoption of a "next generation"

technology now, using a standard agreed by 120 manufacturers.

Major rival

On the matter of size and weight, 8mm video has so far failed to beat its major rival JVC's Videomovie system (which uses smaller-version VHS cassettes, but compatible with standard VHS video-cassette recorders).

In fact, the VHS camcorder is half a kilogram lighter than Kodak's system, a third of a kilogram lighter than the Philips' 8mm version, and smaller than both.

By using narrower tape, 8mm gains little in size reduction in the camcorder—for which it seems a plausible rationale.

width is not the crucial dimension. The only size advantage is in the cassettes themselves, but the differences are those of a pocket diary to a packet of king-size cigarettes; hardly of great consequence.

The availability of FM audio sound on portable systems will be of no relevance to the average movie maker. If a sound becomes significant only when playing back pre-recorded tapes of superior quality—and FM sound is already available on some VCRs of the larger VHS and Beta formats.

Since any purchaser of an 8mm camcorder cannot use the tapes on ½ inch VHS or Beta VCRs—and by the end of this year some 60m VCRs of ½ inch format will be in use worldwide—the new format is unlikely to appeal to existing VCR owners.

Kodak's answer to this is that 8mm tapes can be transferred to ½ inch; but this will involve quality losses, and why should anyone have to bother to do that anyway?

In consequence, Kodak and Polaroid may be launching into a market from which most of the cream has been removed.

The biggest hope for Kodak and Polaroid is that 8mm will indeed become a new generation standard. They point, very reasonably, to the technical specifications agreed by over 120 manufacturers to ensure that the next generation format is universal. In fact, the bulk of the 8mm concordat meanwhile puts its money and its faith in the VHS format, for which even Philips has become a recent convert.

The "next generation" promise of technical advance with 8mm also look less than credible. If 8mm cannot beat VHS on convenience and standardisation, its only hope must be in offering better picture quality—and perhaps price advantages.

But a smaller tape width actually poses bigger problems for the engineers, ameliorated only by a decision to use metal instead of oxide tapes as currently used on VCRs.

Improvements

On present evidence it is most unlikely that the first 8mm arrivals will even be able to match VHS and Beta VCRs for quality—and the marketing delays already are due to quality problems in the metal tape and also the smaller video head.

No doubt these technical difficulties will be resolved. But meanwhile JVC have stated that continuing improvements in the VHS format will eventually lead to a Super VHS—perhaps using metal tape and improved signal processing.

JVC do not believe that a change of format is commercially or technically sensible unless a totally new broadcasting system is also introduced (eg high definition 1125 line TV or digital transmission).

The greater tape width of VHS allows more scope for improvements in picture quality and it is on this format that the next generation of technical advances is most likely to benefit the consumer.

In the meantime, it will be the marketing men that Kodak and Polaroid must depend upon if the gamble is to pay off. But on current evidence, they will have no price advantage over the rival VHS camcorder.

The UK's first VHS camcorder system is promised by Ferguson this autumn at "under £1,000, including VAT and an executive-type carrying case."

Kodak will be pushed to match this, and the consumer will still require an extra unit to allow the Kodak camcorder to play back through a TV set.

Biggest problem of all, however, is timing. JVC's Videomovie is already available in Japan and public awareness of its benefits will be widespread before the first 8mm systems arrive—possibly in the U.S. this September.

The tide turns for the pirate tape market

More victories won in battle against pirates

THE BATTLE against video pirates is being won and the major threat to the video industry brought gradually under control.

At one stage it was estimated that the pirates had a bigger slice of the business than the legitimate traders and that lost revenues may have totalled more than £100m a year.

By Raymond Snoddy

Britain was very much the centre of a well-organised international trade in pirated tapes. Cinema projectionists were bribed for copies of the latest films and pirates were able to co-ordinate their release with the official one to take advantage of the publicity.

In the past year the tide has turned against the pirates. The Federation Against Copyright Theft (FACT), the all-industry investigating body set up to deal with the problem has had major successes against the organised criminals who were running duplicating factories turning out copies by the thousand of master tapes of new Hollywood releases not yet available to the legitimate video market.

In May, FACT claimed that no major feature film had been pirated from a UK film print since "Elsa & Jack" in June 1983. The claim could be made because individual copies of films are now being marked so that a leak can be traced back to the source. Poorer quality copies are still coming in from abroad.

Seizures

FACT has seized illicit cassettes with a street value of well over £1m since it was launched in January 1983.

Senior industry figures believe that Britain is leading the rest of Europe in the battle against video piracy.

Warner Home Video, one of the leading video companies operating in the UK has recently carried out a survey among dealers to try to establish the impact of piracy.

Warner sales representatives questioned 156 dealers all over the country.

Eighty-six per cent thought that piracy had declined over the previous year.

Seventy-one per cent of the sample believed that piracy was now under 20 per cent in their area.

Success against the pirates has depended on several factors. One has been the well-financed campaign against the pirates that FACT has been able to mount. The investigations have been directed by Mr Peter Duffy, former commander of the Metropolitan Police anti-terrorist squad.

"It has been a detective story," Mr Duffy explained earlier this year, "involving searches in the night and chasing people across London."

But the investigations were given teeth by the Copyright (Amendment) Act which came into effect last July. The Act meant that a video dealer could be fined up to £1,000 for every pirate tape sold.

Offenders could also receive two months imprisonment at Magistrates Court or up to two years in a Crown Court. Until the Act became law, FACT had to take expensive civil proceedings to get meaningful penalties.

Local authority trading standards officers have also been increasingly active in keeping surveillance of local outlets which include garages and fish and chip shops as well as video shops.

FACT, less dramatically has been engaging in an educational battle to convince the public that breach of copyright is just another form of theft.

The success of FACT so far has been in cracking down on large scale piracy. The organisation's efforts are now shifting to smaller scale counterfeiting—the copying of existing video releases often involving nothing more sophisticated than two video recorders and a TV set.

It is this area of "back-to-back" copying which is causing

The pressure on the pirates is likely to continue. The European Commission is trying to win co-operation throughout the EEC to tackle the problem.

The Commission believes piracy is undermining the job creation prospects for the new industry.

In Britain, the British Videogram Association believes that employment in the industry probably around 20,000 could double if the pirates were defeated.

The EEC wants members states to bring their anti-pirate regulations into line and co-operate by exchanging intelligence on the activities of video pirates.

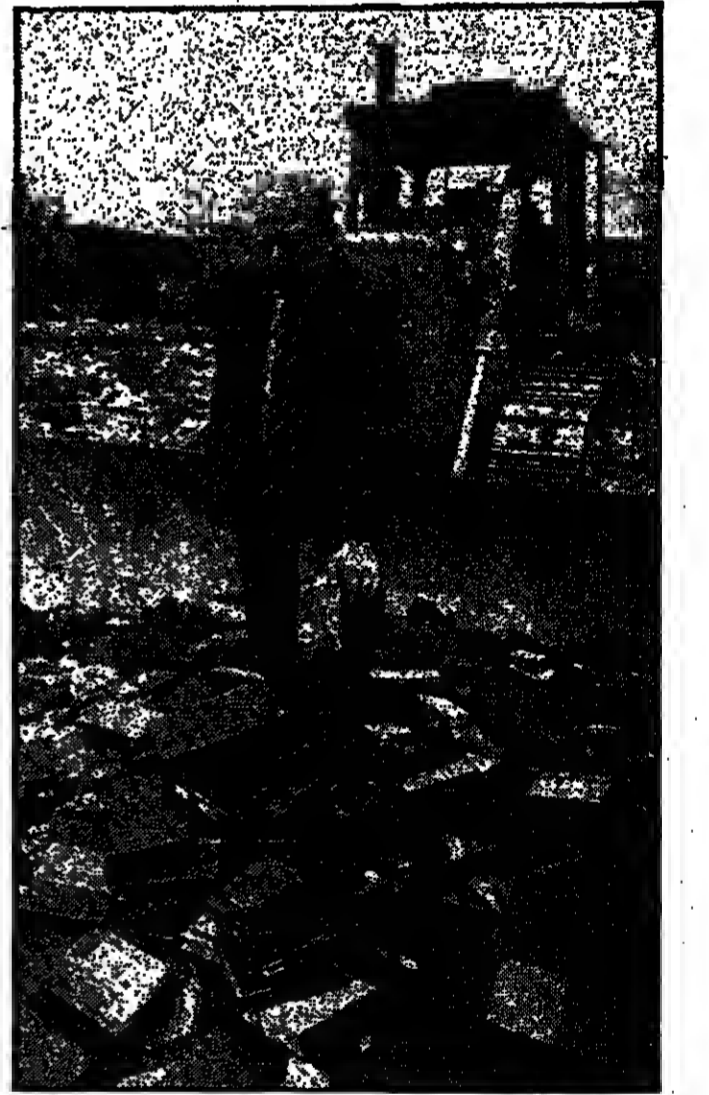
One new cloud on the horizon comes from cable television. The film channels for cable will bring into the home a wide range of films within a year of theatrical release.

Although films will be released on video cassettes before they are shown on film channels—such as TEN or Premiere a large number of films more recent than those appearing on broadcast television will be available for domestic copying.

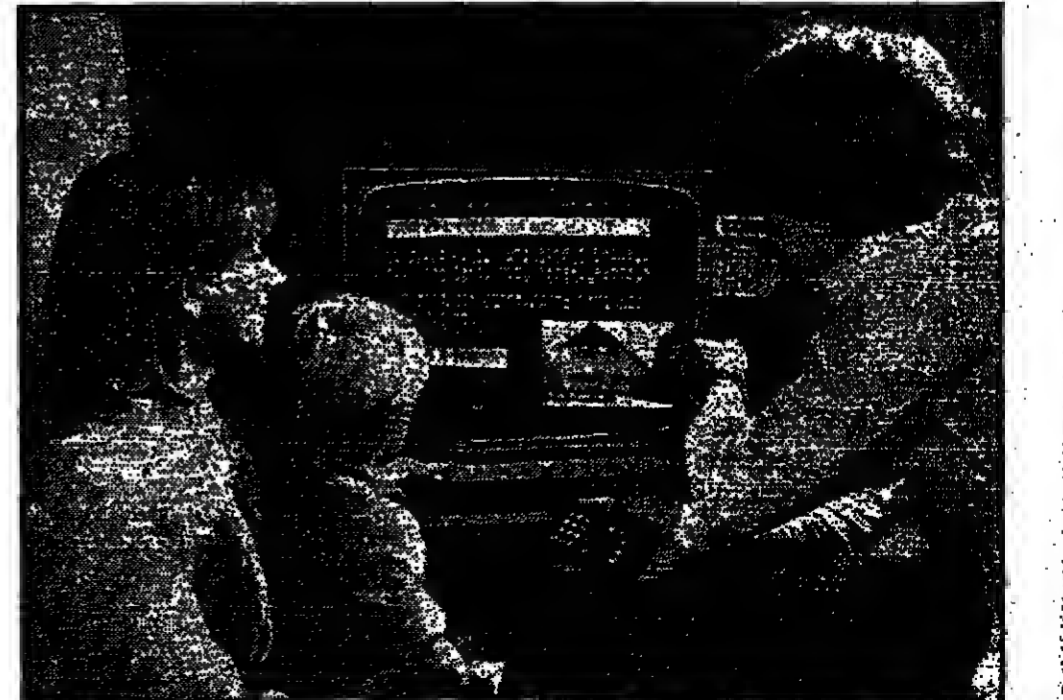
Mr Robert Birch, director general of FACT, said recently he looked forward to the advent of cable and direct broadcasting by satellite with some apprehension.

The Government has, however, moved quickly to protect some of the rights of cable and satellite operators. The Home Office has tabled an amendment to the Cable and Broadcasting Bill creating a new offence of dishonestly receiving cable and satellite television services with intent to avoid payment.

There will be fines of up to £2,000 for those who unscramble a scrambled signal. Civil litigation will also be possible against those who trade in or advertise the "black boxes" designed for illicit unscrambling.



Civil action by the film industry led to the destruction of 35,000 pirate video tapes in Britain. Mr Percy Brown, investigation officer of the Motion Picture Exporters' Association of America supervises destruction of the haul



Britain Prestel viewdata system has increased its facilities with a "mailbox" service which enables Prestel customers to send each other electronic messages. Shopping by Prestel has also become more popular—customers can use "response frames" to order goods and services. More than 40 companies now offer around 500 items

NATIONAL SERVICE IS STILL WITH US.

There are more than 600 service centres in the U.K. to back up the sales and contract rental installations. RRC's innovative high technology visual equipment.

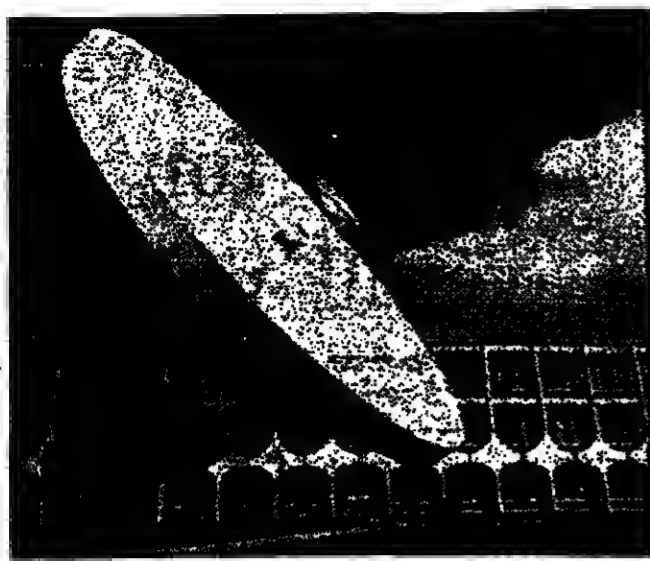
Radio Rentals Contracts is a part of Britain's No. 1 television and video rental company. Our prices are highly competitive and our installation service quick and efficient.

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Key targets: quality and convenience



● The new satellite colour television system, MAC, invented by the Independent Broadcasting Authority's Engineering Centre at Crawley Court, Winchester, has been tested and demonstrated over the receiving dish aerial, above. Colour television in the UK remains an engineering marvel, although many viewers take "the plain ordinary television" for granted.

Reforms needed on copyright safeguards

BY THE end of this year about four out of every ten homes in Britain will possess a video recorder. Yet every time one of those VCRs is used to record a broadcast television programme, someone will technically be breaking the law.

The Copyright Act 1956 makes it illegal to copy most broadcast television or radio or to make copies of pre-recorded cassettes even for private use in the home. Needless to say, nobody has been prosecuted for this offence and it is obviously unenforceable.

Technology advances have left copyright laws in many countries long behind. It is worth remembering that when the British Act was passed, the photocopier had only just been invented, audio taping was a specialist activity and home video recording was a fantasy.

For over a decade various British governments have done little to bring the law up to date, even if they have acknowledged it was something which needed doing. As long ago as 1973 a committee was set up headed by Mr Justice Whitford to examine copyright law. It took the Whitford committee four years to report. It took the government another four years to produce a Green Paper on the subject and then promptly called for "full discussion" on the subject.

Copyright is not an exciting subject and is easily put on the backburner by politicians. Nevertheless it has considerable commercial importance and this government's enthusiasm for high technology has led it to realise the urgent need for reform of copyright law. Nothing is likely to be introduced this year.

The home taping of broadcast television programming has caused a controversy around the world over the loss of copyright. On one side the copyright owners, such as the performers and the record and film publishers, have argued strongly that there should be a levy on blank tapes and on players to compensate the copyright owners for a loss of revenue.

On the other side the suppliers of VCRs and blank tapes (and audio equipment) together with the consumer groups have argued equally vociferously against such a levy.

Arguments
The battle between the two groups is having mixed results. Earlier this year the U.S. Supreme Court narrowly ruled that taping programmes at home did not violate federal copyright law. For over seven years the U.S. film industry had been arguing that the manufacturers should compensate them for every VCR and tape they sell—in effect a levy.

In Europe there appears to be a swing towards a general acceptance of a levy. The European Commission is expected to produce a green paper later this year which favours a levy. A major report prepared by the International Federation of Phonogram and Videogram Producers for the EEC last year recommended a 5 per cent levy on the makers or importers' prices of equipment. It also suggested a levy of one European Currency Unit (ecu) per hour of audio tape (about 60p) and three ecu per hour of video tape (£1.80).

The report said: "The copyright industries of the member states make a significant contribution to the balance of payments. Their predominant role in world markets is being undermined by private copying; they are suffering from falling sales which in turn are leading to reductions in employment."

Not surprisingly, the IFPI report has been strongly attacked by the Tape Manufacturers Group, a body which was

started in the UK but which is being extended to other countries within Europe. (The TMG's members include BAFS, SM, Marcell, Memorex, Sony and TDK.)

The TMG warned that if the IFPI proposals were ever accepted, it could double the price of blank videotape. It also claimed that the effect of imposing a levy on blank tapes in Sweden had been devastating.

Figures from the Swedish Association of Radio and Consumer Electronics Suppliers show the sales of video-cassette tapes in the year ended November 1983 were 1.7m, and 4.1m in 1982—but a mere 410,000 in 1983 after the levy had been introduced.

The TMG says the levy resulted in widespread smuggling, which flooded the country with cheap, poor quality tapes, in addition to creating a vast market in second-hand tapes which can damage the VCRs.

The consumer groups are also strongly opposed to a levy. Consumers in the European Community Group (CECG), the British ENG consumer group, described proposals for a levy as "unfair and unworkable."

Despite the objections it is clear that the arguments of pro-levy lobby are beginning to hold sway in a number of countries. They argue that the law is broken by the copying of records and broadcast television programmes and films is cheating the performers and the industry of legitimate revenue.

Home taping
At the same time they acknowledge that it is impossible—not to say highly undesirable—to try to prevent people breaking the law by home taping. Therefore, a levy is a sensible and practicable compromise which would also legitimate home recording.

The Video Copyright Protection Society (VCPs) argued: "The regularisation of recording at home for private purposes would do much to clear the present confusion in the public mind as to what constitutes an infringement of copyright."

The VCPs, which represents broadcasters and film distributors, also said in a submission on the Government green paper: "The broadcasters (BBC and ITV) are strongly in favour of a levy on both video hardware and video software to compensate copyright-owners whose interests might be damaged if home recording were to be regularised."

A number of countries already have some form of a levy, including Sweden, Austria, Hungary and West Germany. Belgium, the U.S., Canada and Greece are also investigating the introduction of a levy, as well.

The British Government appeared to be strongly opposed to the idea of a levy when it first published the green paper. However, it seems to have moved some way towards the pro-levy position and is, at the very least, "neutral" on the matter.

The critical factor in many countries is that the copyright owners, such as writers, performers, film companies, distributors are national organisations. Most of the providers of the equipment are Japanese.

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TWO MAIN thrusts dominate the contemporary scene in broadcast TV technology—the quest for improvements in picture and sound quality, and progress in achieving better operational convenience in the equipment and systems.

There ought to be a third goal, but there isn't—reduction in the cost of these marvellous developments. Indeed, if an invidious problem haunts the engineers, it is that better pictures and more easily managed systems do not come cheaply.

There are five somewhat distinct areas of technology where this activity is focused: television studios, cameras, videotape recorders, post-production (eg editing) and transmission of programmes. A sixth might be added—the outside broadcast unit, but this combines some elements of the other five.

Although television studios are the very workshops of TV production, paradoxically the developments in studio design and ancillary equipment have been less dramatic than, for example, in videotape recorders. Indeed, there is little scope for improvement as long as the floor is flat, the walls acoustically satisfactory, and the lighting flexible and adequate.

A modern television studio incorporates most of its technology in the overhead lighting grid and the sound system. With batteries of lighting equipment suspended from the ceiling, the modern studio is likely to have

computerised control to automatically position the array of luminaires in any number of pre-arranged lighting plots—saving time between scene changes.

The sound installation in its most sophisticated form—as, for example, in London's recently opened Limehouse Studios—can electronically change the reverberation characteristics of the studio, which is an ideal facility for musical performances.

The studio does pose architectural problems, which has led to a few architects becoming specialists in studio design. Apart from understanding the unusual technical demands of the studio, the architect must work within very exacting parameters of design.

One leading studio architect—John Ware of The Ware Macgregor Partnership—sums up the TV studio as "a place of environmental engineering rather than a palace of beauty" with "superlative standards in the cleanliness of air conditioning, freedom from noise and acoustic properties."

Major strides, however, have come in the equipment which goes in the studio—or on location with the unit. For example, cameras have become smaller and lighter, more sensitive, yielding pictures of higher resolution and better colour fidelity.

One residual problem in TV camera design, however, is the so-called tube lag—the tendency for bright moving subjects to leave a momentary after-image

if the background is dark. A new camera recently developed by RCA in the U.S. overcomes this and other drawbacks by using charge coupled devices (CCDs) in place of the conventional camera tubes. Initial reactions of engineers to the RCA camera have been enthusiastic, but CCD cameras are not yet in routine service.

Broadcast TV technology: JOHN CHITTOCK looks at new advances.

The lightweight Electronic News Gathering camera has been another important development, especially since combined with a built-in videotape recorder using small cassettes similar to the domestic Betamax and VHS video systems. But the broadcast ENG versions operate to different technical standards, yielding pictures of a quality that now makes it difficult to spot any difference when a news bulletin switches from the studio to location shots.

Ironically, the home video battle between Beta and VHS is repeated here—except that the market leader with ENG is Sony's so-called Betacam, not the VHS-based system of RCA's Hawkeye.

Studio video recorders have also undergone a revolution with the abandonment of the large and clumsy 2 in quadruple format in favour of the smaller and now superlative 1 in system.

The method of recording is still, however, analogue—but digital recorders are now beginning to have a role, initially in post-production work where re-recording is necessary. Digital VTRs promise freedom from picture "noise" (viz degradation of rich tonal areas); noise is a constant problem in currently-used analogue systems, especially when recordings have to be re-transferred, as in editing.

It is the editing process in particular which now offers the most interesting scope for technical improvement. No matter how convenient video recording is compared to film—and technically more suited to electronic reproduction—the editing of videotape still presents a nightmare in comparison with film.

For all its apparent crudeness with sprocket holes, film can be physically handled and cut by an editor with ease—instantly. And an assembly of film shots can be swiftly changed anywhere in the sequence without much trouble. But with videotape, the editor relies on an expensive array of high technology to enable material to be viewed, slowed down, pin-pointed to the frame and reassembled in any desired combination of shots and shot lengths.

One of the latest developments aimed at minimising the operational disadvantages of video editing ironically attempts to make the process feel more like film editing.

Demonstrated at the recent NAB exhibition in the U.S., Montage provides the tape editor with a linear array of TV monitors which display—effectively—successive frames on the videotape. If the tape is moved backwards or forwards, the frames seen on the line of monitors move likewise and allow a precise cutting point to be seen and quickly chosen.

Innovations

The story so far in this high-speed flick-through TV technology has necessarily passed over many important if less spectacular innovations—such as digital sound mixing, the computerised news room, even new kinds of videotape with metal instead of oxide coatings to yield better quality recordings.

The development which has recently hit the headlines, however, even in the national press despite the mystification surrounding it for lay readers, is C-MAC. This is the transmission standard proposed by the IBA for satellite and DBS broadcasting. It is one of a number of variations on the transmission theme—all of which aim to give better quality pictures at the receiver end.

With the higher bandwidths available on DBS, the engineers obviously wish to utilise this

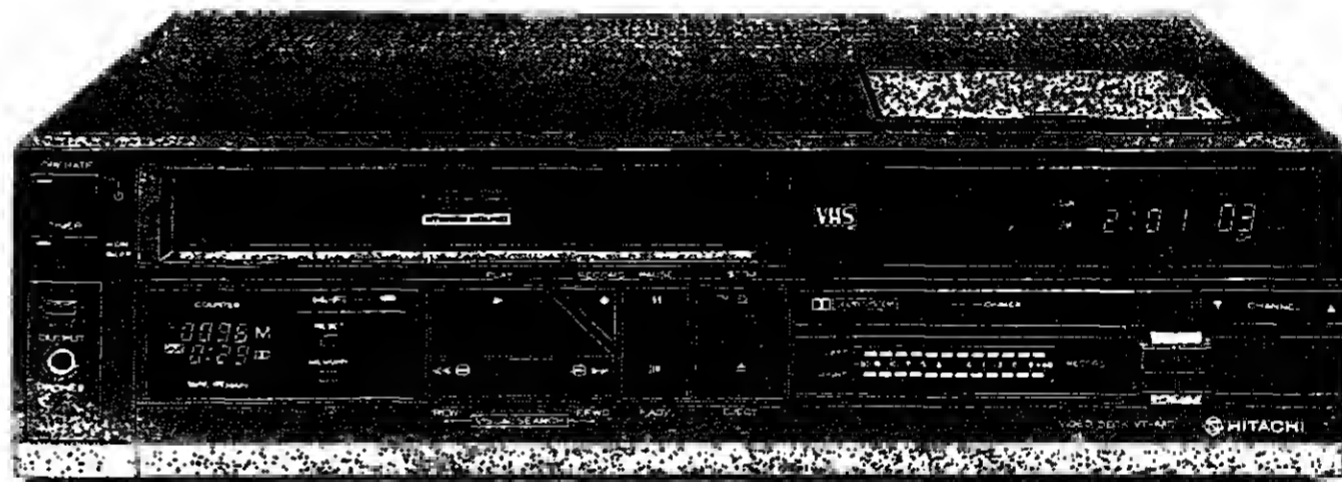
new generation of TV broadcasting to bring to the viewer sharper pictures with higher resolution. It is also an opportunity to eliminate picture defects found in our current TV systems (eg flicker, and cross colour where a fine pattern on clothing can yield spurious colour effects).

There is, however, a dilemma. The introduction of totally new transmission methods such as C-MAC will mean that existing TV sets need adaptation to receive the pictures—and only totally new sets might benefit from all of the technical improvements. In consequence, alternative systems—notably enhanced and extended PAL—have been developed as compromise solutions.

The engineers are no more unanimous on this particular issue than the politicians. Some go further and offer instead genuine high definition television from satellites, which promises TV pictures comparable in quality to cinema films (indeed, cinemas could receive their movies by HDTV satellite transmission instead of by Securicor van).

The state of the art now is such that the engineers can achieve television picture quality to satisfy the most discriminating viewer—even the cinema buff. But two problems defeat the engineers. Firstly cost: it all comes, appropriately, at prices where the sky is indeed no longer the limit. And secondly, who can tell whether the public really wants it, anyway?

Every previous development in home video has been an improvement.

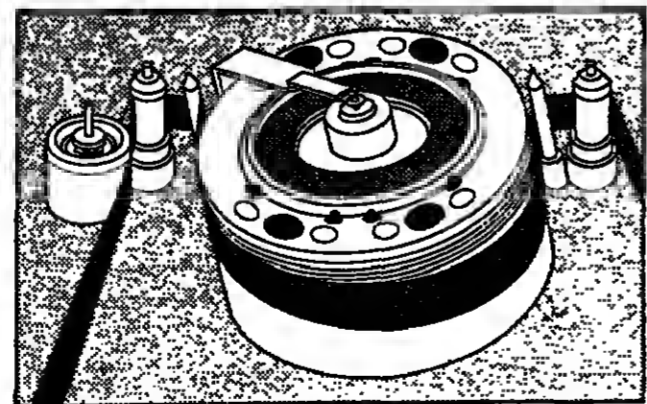


Now comes the first major breakthrough.

Try to imagine spending hundreds of pounds on highly sophisticated hi-fi equipment and then listening to it through a single, one-way, three inch mono television speaker.

The idea is, of course, absurd. Yet this is exactly what millions of video users accept virtually without question. It is true that there are stereo video recorders which you can hook up to your hi-fi system. But apart from giving you the benefits of stereo separation on some pre-recorded cassettes, they don't improve the actual quality of the sound.

This is because the video tape crawls past the fixed audio head of a normal video recorder at a snail's pace of half an inch per second. Or thirty times slower than professional recording speed.



Both audio and video heads are mounted on the helical rotating cylinder which spins at great speed to give a relative tape to audio head speed 207 times faster than conventional video recorders.

Tape speed 200 times faster.

But now Hitachi have developed a rotary audio head that spins so fast it actually increases the relative speed of a tape-to-audio-head by more than two hundred times—yet without shortening the playing time of the cassette.

As any hi-fi enthusiast knows, to increase tape speed by that amount gives a staggering increase in sound quality.

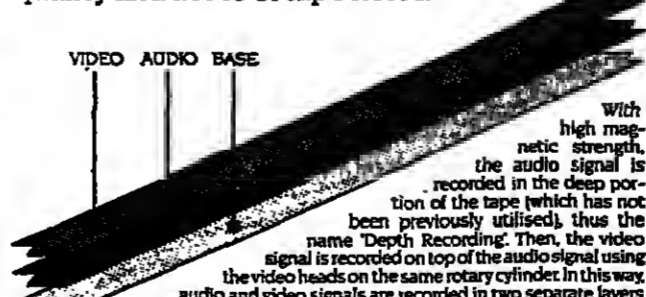
But that's only half the story.

Sound track increased from 1mm to 1/2 inch.

The audio heads in ordinary video recorders use an edge sound track about 1mm wide.

The Hitachi Hi-Fi audio head scans helically across the full width of the tape.

But Hitachi's new 1/2 inch rotary head picks up its signals from the full width of the tape, which again gives a dramatic improvement in sound quality and a loss of tape noise.



VU meters plus Dolby noise reduction give optimum recording and playback conditions.

Finally the rotary head converts the sound signals into FM—the same as transmitted by the BBC and IBA, giving even further improvement when recording television programmes.

Sound quality comparable with Compact Disc.

The result of all this is that when hooked up to your hi-fi amplifier and speakers, this system

THE HITACHI VT88E HI-FI.

gives sound quality comparable to the latest digital Compact Disc recordings.

To experience it for the first time is stunning. True hi-fi sound is normally associated with music.

But to watch television drama with this quality of sound is like having the characters there in the room.

Never has television had such presence. And because you can record radio and discs and play back with Compact Disc quality you'll want to use this system in preference to your audio cassette deck for listening to your favourite music.

In fact, with a half speed audio facility you can use a four hour tape to give eight hours of hi-fi enjoyment.

The future of home video.

True hi-fi sound is clearly the next step forward for home video. Even on ordinary TV transmissions, which are in mono sound, the increase in sound quality is so dramatic as to add a new dimension to television, irrespective of whether it's mono or stereo.

The first Hitachi VHS recorder to receive this remarkable technology is the VT88E Hi-Fi.



VU meters plus Dolby noise reduction give optimum recording and playback conditions.

In addition to hi-fi sound, the VT88E Hi-Fi is equipped with Dolby and VU meters for optimum recording, 39 channel digital synthesised tuning, full picture editing test signal generation, advance timer with back-up and picture control plus full function infra-red remote control handset.

In other words, the ultimate video machine.

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You won't believe your ears.

VIDEO AND BROADCASTING 6



● ITV programme production: above, reel-to-reel video tape recorders which complete a major 2½-year equipment project at Thames TV's Easton Studios. ● Right: part of the videotape and teletext control area of Channel 4 where all the station's pre-recorded programmes and filmed material is eventually routed through to the transmitters of the Independent Broadcasting Authority.

ITV's income nearing £1bn

THE annual income of Britain's 16 ITV companies collectively was running at £877m for the year to May 1984, and is likely to reach £1bn by the end of the current financial year.

Around 97 per cent of the income comes from advertising sales and the remainder from other sources such as programme sales overseas and publications.

The Independent Broadcasting Authority fixes the maximum amount of time which the programme companies may devote to spot advertising. The IBA, which receives no income from licence fees

ITV PROGRAMMES

Weekly transmission hours of the average ITV area company:

	1980-81		1981-82		1982-83	
	hrs.m.	%	hrs.m.	%	hrs.m.	%
News and news magazines	10.56	10	11.07	11	11.33	11
Current affairs and general factual, arts ...	13.47	12	13.34	13	13.47	13
Religion	2.27	2	2.28	2	2.13	2
Adult education	2.54	2	2.16	2	1.48	1
School programmes	6.11	6	6.40	6	6.41	6
Pre-school education	1.29	1	1.33	1	1.32	1
Children's informative	2.22	2	2.24	2	3.14	3
"INFORMATIVE"	40.06	38	40.04	39	41.10	39
Plays, drama, TV movies	24.45	24	22.10	21	21.28	20
Feature films	7.23	7	8.06	8	9.17	9
"NARRATIVE"	32.68	31	30.16	29	30.45	29
Children's drama and entertainment	7.45	7	7.56	7	6.58	6
Entertainment and music	13.43	13	14.08	14	13.21	13
"ENTERTAINMENT"	21.28	20	22.04	21	20.19	19
"SPORT"	10.07	9	9.31	9	11.31	11
TOTAL ALL PROGRAMMES	104.00	100	103.82	100	103.52	100

Source: IBA.

HOW THE ITV COMPANIES SPEND THEIR INCOME (year to June 1983)

Programmes	57p
Administration, etc	15p
Depreciation on assets	4p
Rentals paid to the IBA	6p
Fourth channel subscription	12p
The levy (paid to the Government via the IBA)	2p
Corporation tax (paid to the Government)	2p
Profit, after tax, to provide reserves, new equipment and dividends to shareholders	2p

£1.00p



Tough times for the BBC

By Raymond Snoddy

"THE SQUALL," a senior BBC executive admits, "was unexpectedly severe and didn't show up on the radar."

He was referring to the autumn season which had seen relatively poor ratings for the BBC, with the Corporation routinely trailing behind the combined forces of Independent Television and Channel 4.

In some weeks the share of the total audience fell as low as 42 per cent.

When it did achieve ratings success with innocuous melodramas, such as *The Thorn Birds*, BBC Television was accused of being "too populist". Ministers hinted darkly that such things might be remembered, come licence negotiation time.

There were artificial comparisons with Granada's *Jewel in the Crown*.

Right-wing Conservative backbenchers talked of dismembering the BBC, of curbing its over-weening ambition or at least forcing it to take advertisements, on Radio 1.

More fundamentally, the ITV system was increasingly outspending the BBC. BBC Television this year will have around £500m to spend on its two television channels. It looked for a time as if ITV revenues might reach £1bn—although that figure has now been scaled down.

Pressure on revenue was also increasing because of the

growing sophistication and cost of broadcasting technology. Underlying it all was the threat from cable television as the Government went ahead with plans for multi-channel interactive cable.

If the present scarcity of airwaves was replaced with previously undreamed-of-choice, and the television audience fragmented, what justification would there be for the continuation of the universal licence fee monopoly?

To cap it all, the BBC's stake in the new technology through direct broadcasting by satellite (DBS) seemed to be going badly. It looked as if the project might be too financially risky for the BBC to go ahead with it.

Shaky base

DBS seemed a shaky base from which to enter negotiations for a new three-year licence fee to run from next April, with a Government suspicious of the "public sector".

For a time, confidence in some sections of the Corporation seemed to be affected and there were discussions on what the future role should be of one of the world's leading broadcasting institutions.

Many of the longer-term problems have not (and will not) go away, but there are clear signs that the BBC is recovering its nerve and is covering both a surer political ground and an awareness of the need for change.

In recent months, Mr Ansbrey Singer, the managing director

of BBC Television retired early and was replaced by Mr Bill Cotton who has a successful track record in entertainment. He, in turn, has persuaded Mr Michael Grade, the former whizz kid of London Weekend TV, to return from Los Angeles to be controller of BBC 1.

It is widely believed that the combination will lead to sharper competition with the independent sector for audience figures.

Mr Brian Wenham, BBC Television's director of programmes, has consistently argued that "reach" (the numbers who watch in any week) and audience appreciation are more important than audience share. The fall in the ratings, he believes, is more to do with the arrival of Channel 4 than lack of appreciation for BBC programmes.

The immediate threat from cable to the established broadcasting organisation now seems much less than only a few months ago.

The BBC has also managed to divert itself of 50 per cent of the financial risk of DBS while still keeping control of the joint project which will include ITV companies and non-broadcasting interests.

The key to the BBC's future health now lies with the licence fee negotiations. The Corporation will be looking for a fee well in excess of £60 (compared with the present £46). The outcome will determine its ability to compete with ITV across the whole range of programming as it has aggressively done until now.

The BBC argues that it needs a licence fee increase well in advance of inflation because many of its costs—such as bidding for artists against ITV companies—bears little relation to the retail price index.

The Corporation says it will not be finalising its licence fee claims until the autumn. In the financial year 1983-84, the licence fee income was around £700m.

The BBC would appear to have the right man for the times in Mr Stuart Young, the first accountant to become chairman of the BBC.

Earlier this year, Mr Young talked to journalists about his first impressions as a BBC Governor.

"When I first joined the BBC I thought I might find the BBC was brigaded with the use of our money. I soon learned otherwise. The budgeting for programmes is as tight as any in the world," Mr Young said.

He added that visiting Japanese and German broadcasters have acknowledged "that in this case, at least, Britain is very competitive."

This year, so the story goes, the BBC will produce 9,000 hours of television and 149,000 hours of radio for 12.5p a day for each licence-payer.

The BBC is also likely to win a sympathetic hearing from Mr Leon Brittan, the Home Secretary.

He is very much a "dry" in economic terms and will insist on the public receiving value-for-money in the licence fee, but he is very conscious of the benefits of the public service broadcasting tradition.

Spending in the context of the competition from cable, Mr Brittan said recently: "We must protect public service standards in existing terrestrial broadcasting. They are of great value and something we see going to our peril."

Mr Brittan is also a supporter of the licence fee system which the BBC believes is the cornerstone of its independence.

While acknowledging that the system appeared "odd," Mr Brittan said: "I have so far not been persuaded that any of the alternatives that exist is to be preferred."

Certainly, as the licence fee negotiations loom, Mr Alasdair Milne, director general of the BBC, is in a trenchant mood on the aspects of the Corporation's role. In a speech on public service broadcasting to the European Broadcasting Union in Stockholm at the end of last month, he admitted that the rapid introduction of satellite and cable broadcasting was "without doubt the greatest test that public service broadcasting in Europe is undergoing since its beginning."

That he warned that the BBC would not hand over, in either radio or television, the popular areas of broadcasting to either old or new commercial competitors, nor retreat towards minority broadcasting which was fundamentally uncommercial.

If that was to happen, the licence fee would come under intolerable political pressure and the Corporation would decline into insignificance and impotence.

Mr Milne told the EBU: "We believe public service broadcasting must make the popular worth while and the worth while popular. We reject the notion that the popular is constant and that we, as public service broadcasters, any right to hand it over to men whose primary aim is to make money. Here we stand, we can do no other."

Leaving aside the echoes of Martin Luther from the Scottish director general, it would be foolish to believe that the BBC is not capable of renewing itself in the face of technological change and increased competition.

All the indications at the moment are that the BBC will probably have time to adapt itself to changing circumstances.

Conflict over need for overall policy

By Raymond Snoddy



Mr Leon Brittan, Home Secretary: stoutly defends Government policy

EARLIER this summer, senior civil servants, broadcasting and telecommunications executives attended a private meeting to consider whether Britain had a coherent communications policy or not and whether a common approach to all the communication technologies was needed.

The meeting in Nutfield Lodge in London's Regents Park was called by Mr John Hawkins, executive director of the London-based International Institute of Communications, a research body with members in 80 countries.

Under the chairmanship of Sir Monty Finneston, it was designed to bring together the people who, whether they fully realise it or not, help to shape the communications industry in the UK.

There were senior civil servants from the Home Office, the Department of Trade and Industry, the Cabinet Office and the Policy unit at 10 Downing Street.

The broadcasters included Mr Brian Tesler, chairman of London Weekend Television; Mr Bill Cotton, managing director of BBC Television; and Mr John Whitney, director general of the Independent Broadcasting Authority.

Telecommunications was represented by Mr Donald Gray, assistant managing director of British Telecom's broadband services, and Mr Stuart Bailey, marketing director of Mercury Communications.

The consideration of the impact of converging technologies

was the focus of the view hunt: "Its policy on broadcasting has become so bogged down with compromise, hypocrisy and half-baked ideas that it is difficult to discern any policy at all." That is perhaps an extreme view, but there is controversy over:

● Cable Television: The Government rushed through a piece of legislation to pilot operators to begin multi-channel cable in the UK. They were announced in November and still do not have the licences many need to get going.

The Budget proposed to phase-out capital allowances will also make it more difficult to cable Britain—a highly capital-intensive project. The only major Government concession has been to extend initial cable licences from 12.5 years.

● Direct Broadcasting by Satellite (DBS): The Government has put together a compromise joint venture, but one that is some distance from its original concept of competition in space.

Critics argue that despite the third share of the project which will be open to non-broadcasters, the DBS project will perpetuate the existing dominance of the BBC and ITV companies. If it is successful, it might also have the effect, in the early years, of a powerful competitor to cable.

● Video: The video industry believes that the Video Recordings Bill, a private members' bill, given Government time, could seriously damage the video trade. The industry believes that a literal interpretation by the courts would prevent not just the sale of "video nasties," but up to half the industry's present stock in trade and greatly increase piracy.

● Film industry: The withdrawal of capital allowances, the industry believes, will make it more difficult for the medium-size British picture to be financed. This is the very area where the UK has been winning a growing international reputation.

● Radio: Mr Norman Tebbit, Industry Secretary, is enthusiastic about an early start to what he calls "neighbourhood radio." He is serious about local commercial radio that new competition may be unleashed for limited advertising revenue before the existing Independent Local Radio network is complete and while its finances are perilously balanced.

Mr Brittan, however, gave a stout defence of Government policy and the Government structure within which decisions are taken. He dismissed calls for a new Annon committee to look at the whole area and rejected suggestions that broadcasting and the new media of communication should come under the responsibility of a new communications ministry.

"To divorce those aspects of the communication industry from the broader economic, commercial and industrial considerations, which a big department like DTI can give, would mean that the world of communication would be the loser and not the gainer," Mr Brittan said.

Broadcasters generally welcomed the role the Home Office played in broadcasting policy. He cited the DBS decision as an example of the present system working well.

"There was no difficulty at all in Norman Tebbit and I communicating as often as necessary and working out a common policy," Mr Brittan said.

The Home Secretary warned that the speed of technological change provided great opportunities and great risks and that all the risks could not be stopped off in advance without limiting the possibilities.

The Government's role is merely to remove obstacles to enable opportunities to be taken "while, at the same time, recognising the obligation to sustain the existing tradition of public service broadcasting, may there are growing signs that to create a new communications infrastructure for Britain, funded entirely by the private sector and paid for largely by entertainment while protecting public service broadcasting, may prove difficult.

Critics have raised questions about Government policy across the entire audio-visual sector. The trade magazine, *Marketing Week* recently expressed



Mr Bill Cotton, managing director, BBC Television

and services in the whole communications sector was inconclusive. But one valuable point about the fragmentation of British policy-making in the area was suggested.

John Hawkins believes it was probably the first time that all those attending had even sat down together in one room to consider the issue.

"The British Government doesn't have a communications policy—very few governments do," says Mr Hawkins. The Japanese, French and Canadians, he believes are, however, well advanced in realising that all forms of communication are related and should be treated as such. In particular, the cultural and industrial aspects of communications must be linked.

Until the British Government accepts the case for more creative talent to express itself, Mr Brittan told broadcasting journalists.

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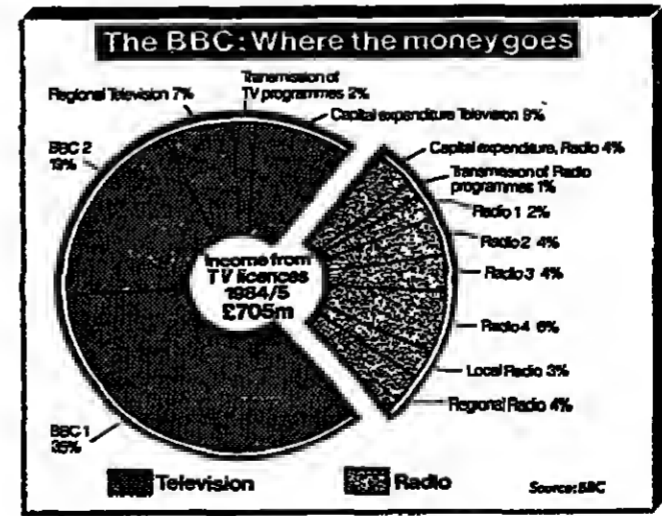
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Belgium*	BFY 2668	BFY 4500
Denmark	DKr 640	DKr 1360
Finland*	FM 240/330	FM 450/590
France*	FFr 311	FFr 471
Germany*	DM 150	DM 150
Ireland*	I£34	I£52
Italy*	L42,880	L78,910
Netherlands*	Fl 153	Fl 153
Norway*	NKr 560	NKr 725
Sweden*	SKr 548	SKr 708
Switzerland*	SFr 174	SFr 174
UK	£15.00	£46.00

Fee for radio only: In Belgium, BFY 708 (£8.79); in Denmark, DKr 154 (£10.66); Netherlands, Fl 45 (£10.02); and Switzerland, SFr 87 (£28.77). Currencies converted at bank selling rate, July 1984. Source: BBC.

* Advertising is carried on at least one of the services supported by the licence fee.



Mr John Whitney, the IBA's director general



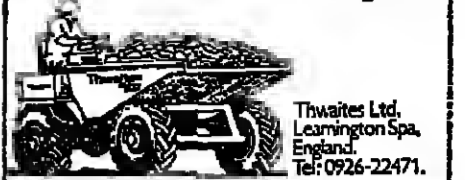
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SECTION II - INTERNATIONAL COMPANIES

FINANCIAL TIMES

Wednesday July 18 1984

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Honeywell profits soar as computers pick up

BY PAUL TAYLOR IN NEW YORK

HONEYWELL, the U.S. data processing and control systems group, yesterday reported a 26.6 per cent jump in its quarterly earnings, mainly reflecting a strong rebound in its computer manufacturing business, particularly in the U.S.

Honeywell's sparkling second-quarter earnings follow similar gains at IBM, Burroughs and NCR, all major U.S. manufacturers of large mainframe computers.

In contrast, however, Sperry, another member of the "bunch" computer companies yesterday reported lower fiscal first-quarter earnings - as expected - following its previously announced decision to write down its investment in Trilogy, the West Coast high-technology group.

Honeywell, which is based in Minneapolis, said its second-quarter profits grew to \$74.3m or \$1.58 a share compared with \$58.7m or \$1.29 a share in the corresponding period last year on revenues 6.8 per cent higher at \$1.49bn from \$1.39bn.

For the first half, Honeywell reported net earnings of \$113.9m or \$2.43 a share on revenues of \$2.89bn compared to net earnings of \$80.9m or \$1.76 a share on revenues of \$2.72bn in the corresponding period last year.

Mr Edison Spencer, Honeywell chairman and chief executive, said the company had continued to benefit from the growth in the U.S. economy, with domestic results sharply higher over the 1983 period. International results, however, declined last year.

"Operating profit for both the quarter and the first half improved sharply over year earlier levels," he said. "Orders and revenue were also up significantly in the U.S."

The company highlighted progress in its information systems business which Mr Spencer said was "making excellent progress" and in its aerospace and defence business where operating profits improved significantly in the latest quarter. This offset level profits in

the control systems and control products divisions and losses at Synertek, the company's semiconductor subsidiary.

Sperry, which earlier this week warned of lower second-quarter profits because of a substantial writedown of its investment in Trilogy, reported fiscal first-quarter net earnings of \$20.1m or 37 cents a share on revenues of \$1.19bn compared to net earnings from continuing operations of \$21.6m or 46 cents a share in the corresponding quarter last year when a \$3m gain from discontinued operations made final net earnings of \$24.6m or 52 cents a share on revenues of \$1.12bn.

The company said its decision to write down its \$40m investment in Trilogy to \$8.69m reduced net income in the latest quarter by \$21.8m or 40 cents a share.

Sperry is one of a number of major investors in Trilogy which last month announced that it was abandoning plans to build a new large-scale computer using advanced experimental chip technology.

U.S. drug groups set for record results

By Terry Byland in New York

MERCK and **Eli Lilly**, two of the leaders of the U.S. pharmaceuticals industry, are well on the way to establishing profit records for the current year after strong second-quarter performances.

Merck, whose stock is a constituent of the Dow Jones industrial average, has turned in a gain of 6.5 per cent to \$131.4m or \$1.76 a share in net earnings for the second quarter, reflecting an increase in sales from \$821.9m to \$891.3m.

For the six months, Merck's earnings are \$256.5m or \$3.47 against \$237m or \$3.21. Sales show only a modest increase from \$1.6bn to \$1.7bn. Stock in Merck has fallen sharply in New York over the past fortnight, after analysts warned investors that the company would soon meet strong competition for Aldomet, its blood pressure drug, the patent on which expires in September.

Lilly, which is strong in antibiotics and anti-arthritis drugs, pushed net earnings ahead from \$101.9m or \$1.36 a share to \$114.4m or \$1.56 for the three month period, but sales dipped from \$740.6m to \$723.9m.

Chemicals add to growth at Goodrich

By William Hall in New York

B.F. GOODRICH, the U.S. tyre company, has reported a five-fold increase in its second quarter net income to \$32.4m on the back of sharply higher profits from its chemicals business.

Mr John D. Ong, the group's chairman, says that "for the past several years we have been taking steps to build our two chemical segments and focus on value added products and specialty markets. More than half of our earnings now come from these chemical segments, and we expect their contributions to increase year by year."

Goodrich's tyre and intermediate operations boosted their operating profits from \$3.4m to \$26.2m, and the special chemicals business boosted its operating income from \$16.4m to \$25m.

Operating income from the tyre and related product operations, which are still the biggest single part of Goodrich's business, rose from \$19.7m to \$26.5m.

FMC growth accelerates

By Our Financial Staff

FMC, the U.S. machinery and chemicals group, has reported a further acceleration in earnings for the second quarter.

Second-quarter net income jumped by 66 per cent to \$64.6m or \$1.91 a share from \$36.9m or \$1.17. At \$939.5m, sales gained 7 per cent.

After a strong first quarter, the Chicago-based company shows a gain of 52 per cent to \$107.1m or \$3.17 a share in net earnings for the first six months, with sales at \$1.9bn, against \$1.7bn. Midyear 1983 earnings were \$70.4 or \$2.11.

RCA income jumps 75% to new quarterly high

BY OUR NEW YORK STAFF

RCA, the diversified U.S. electronic equipment, broadcasting and entertainment group, yesterday posted a 75 per cent increase in second-quarter net income reflecting improvements in all the company's major business segments.

The group said net earnings increased to \$109.9m or \$1.13 a share on revenues of \$2.48bn in the latest quarter compared to \$62.6m or 56 cents a share on revenues of \$2.2bn in the corresponding period last year.

The second-quarter net earnings boosted first half net income to \$160.2m or \$1.53 a share on revenues of \$4.85bn - despite a first quarter \$175m pre-tax (\$94.5m or \$1.15 a share) special provision fol-

lowing the company's decision to end videodisc player manufacturing.

In the 1983 first half RCA reported net earnings of \$91.6m or 70 cents a share on sales of \$4.23bn.

The sharp improvement in RCA's earnings underscores the group's strategy to refocus its business and concentrate on expanding its profitable operations.

Mr Thornton Bradshaw, chairman, said that the latest period was the most profitable quarter in the company's history. "After the hard work of the last three years we find these results highly satisfying," he said. "Our commitment to the company's traditional businesses of electronics, communications and entertainment

is proving to be the correct strategy. We are proud of these record level results and confident we will do even better in the years ahead."

Mr Bradshaw also noted that all of RCA's reporting segments reported second-quarter sales and earnings gains, with both the electronics and NBC broadcasting units setting new records.

RCA's strong performance in the electronics segment was led by the consumer electronics, solid state and government systems divisions. The broadcasting unit's performance reflected further gains for NBC.

Hertz, RCA's rental car agency also managed to post a healthy 33 per cent pre-tax gain in earnings

Recovery continues in forest products

By Our Financial Staff

THREE of North America's leading forest products companies, **Abitibi-Price**, **Boise Cascade** and **Georgia-Pacific** have reported sharply higher second-quarter profits as the economic recovery continues to rebuild demand for their products.

Toronto-based Abitibi-Price, the world's largest newsprint producer, lifted operating net profits from \$311.9m (U.S.\$8.9m) or 47 cents a share to \$323m or \$1.02 a share, on sales up sharply from \$547.6m to \$586.6m.

The latest period excludes a \$29.35m loss on the sale of a paper mill, making final net \$298.7m, or 91 cents a share.

Operating net earnings for the first six months jumped from \$3.1m or 48 cents to \$333.4m or \$1.42 (in the first quarter of 1983 there was a per share loss after preferred dividends). Sales in the latest six months advanced from \$385.1m to \$410.6m.

The company, controlled by Olympia & York Companies, the Reichmann family holding company, attributed the latest earnings rise to stronger pulp and paper markets, particularly that for newsprint, and the rise in the U.S. dollar.

Boise Cascade, based in Boise, Idaho, boosted second-quarter net earnings from \$17m or 64 cents a share to \$33.5m or \$1.16, on sales up from \$869.5m to \$998.7m.

This took six-month net earnings to \$81.4m or \$2.11 a share against \$26.1m or 89 cents. Sales rose from \$1.64bn to \$1.95bn.

Georgia-Pacific, the largest U.S. producer of softwood plywood which also has major interests in chemicals and gypsum, raised second-quarter net profits from \$58m or 52 cents a share to \$84m or 78 cents, on sales up from \$1.69bn to \$1.82bn.

Six-month net earnings were \$135m or \$1.25 a share.

Eléctricité de France to back industrial development agency

BY PAUL BETTS IN PARIS

ELÉCTRICITÉ de France (EdF), the French state electricity utility, is to acquire a 10 per cent stake in France's Industrial Development Institute (IDI), the state-controlled agency set up in 1970 to take shareholdings in promising small and medium businesses in need of capital.

The move is designed to encourage the development of a stronger French electrical equipment industry at the same time as injecting fresh funds into IDI, which has suffered losses largely as a result of its majority shareholdings in some French industrial lame ducks, including the troubled Boussole Saint Frères textile group.

The operation also both marks a further step in the Government's efforts to involve EdF more directly with the country's industrial sector

and in IDI's current investment policy.

EdF will take part in a forthcoming increase of IDI's capital, which totals at present FF1 160 (\$115m). This operation will enable EdF to buy a stake of about 10 per cent in IDI.

IDI has been seeking a capital increase of about FF1 200m, but the Government so far has not consented to the increase. As a result IDI has been selling or seeking to sell a number of its corporate stakes to raise fresh funds.

IDI recently sold its majority stake in Brouard, a French agricultural equipment concern, to the Italian Fiat group and its stake in the Minelli shoe concern to the French group Andre.

The agency has also been switching its investment strategy back to

its original business of participating in the development of medium sized enterprises. It recently forged a partnership in a joint venture capital fund with the French state Suez banking group.

These measures and the imminent participation of EdF in its share capital are expected to help the agency - which is 49.95 per cent controlled by the government and the rest by state financial institutions - to return to profit. IDI is expected to show a deficit of about FF1 90m for 1983.

The deal with IDI follows the French Government's decision last July to ask EdF to help in the development of a French electrical equipment industry. The decision coincided with the Government announcement of a slowdown in the French nuclear programme.

Banco Popular quits Rumasa share-out

By David White in Madrid

BANCO POPULAR, smallest of Spain's big seven banks, has opted out of the carve-up of the Rumasa group's banking interests by paying Banco de Bilbao Pta 175m (\$1.1m) to take over its share.

The agreement between the two banks comes less than a week after an eight-sided pact, including Banco Popular, on the future ownership of 17 Rumasa banks which were nationalised under a government expropriation decree in February last year.

Banco Popular still has to subscribe its share of Pta 400m worth of low interest bonds which the Government is raising from the banks in order to clean up the accounts of the reprivatised Rumasa banking sector.

GTE boosts earnings and remains optimistic

BY OUR FINANCIAL STAFF

GTE, the Connecticut-based company which owns one of the largest non-Bell telephone systems in the U.S., boosted second-quarter net earnings from \$230.7m or \$1.22 a share to \$273.1m or \$1.38, and continues to be optimistic about the rest of the year.

Sales in the latest quarter jumped from \$3.13bn to \$3.82bn, and earnings for the first six months were up sharply to \$829.9m or \$2.69 a share against \$450.7m or \$2.23, on sales up from \$8.09bn to \$7.07bn.

Telephone revenues for the second quarter rose 10 per cent to \$2.3bn, while telephone net income increased 4 per cent to \$266m. Revenues in the latest quarter included the effect of rate increases

awarded since the second quarter of 1983.

Communications services revenues were up from \$59m last year to \$317m, reflecting the acquisition of the Sprint long distance telephone service in June 1983.

The division's net income, up from \$376,000 in the 1983 quarter to \$11m, was down from the first quarter because of the costs of expanding Sprint's capacity and higher access charges.

Sales of communications products slipped from \$957m a year ago to \$816m, producing halved net income of \$7m. In contrast, sales of electrical products rose 30 per cent to \$468m, boosting net income by 69 per cent to \$25m. The gain reflects increased demand for domestic lighting and precision materials

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INTL. COMPANIES & FINANCE

Michael Thompson-Noel on an Australian group's plans to diversify A lean CSR hungers for takeovers

"WANTED: Leading Australian conglomerate seeks major new business not related to existing activities (ie, sugar, building materials, minerals and resources). High profitability and good growth prospects essential. Could be onshore or off, an acquisition or a greenfield venture. Will pay top dollar for right opportunity. All approaches treated speedily and in confidence."

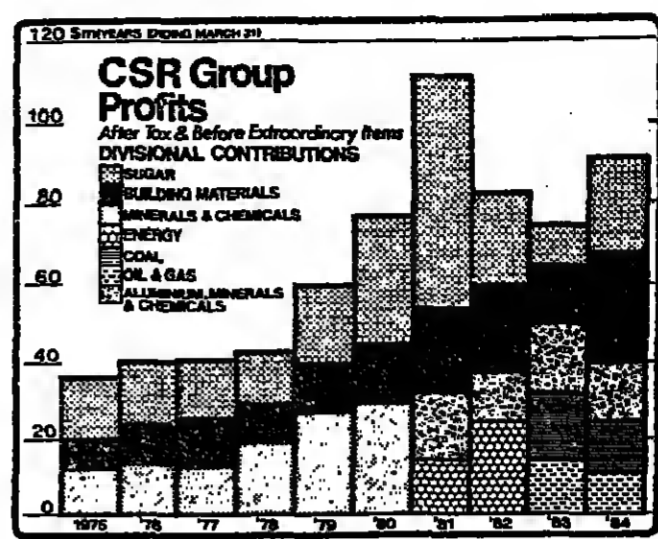
Such an advertisement has yet to appear. But the word is out — CSR, the Australian major, is anxious to diversify. The aim: to lessen its dependence on natural resources and those of its returns subject to commodity price fluctuations.

It is not sure what it is looking for, but it has sketched out the criteria. Mr Bryan Kelman, CSR's squire and respected general manager, says the new venture must offer good profits and strong growth, and be based on CSR's existing skills and expertise.

It must be free of cyclical ups and downs, not labour intensive and not prey to exchange rate fluctuations. Mr Kelman rules out the entertainment business (and includes the media under this label) but would be interested in brewing ("Not Castlemaine Tooneys") or financial services.

Whether it is onshore or off, an acquisition or something brand new, does not appear to matter—but it has to be large. According to Mr W. George Devrell, the group's treasurer, large means "bigger than A\$200m." "We don't do small things well," says Mr Kelman. "It has to be in a decent scale."

CSR can afford to talk expansively. In the year to March 31, operating profit before tax was up 37.7 per cent to A\$160.4m (U.S.\$136.6m), and net profit rose 23.8 per cent to A\$91.7m (plus 2.9 per cent). Shareholders' funds stood at A\$1.4bn, and total assets at A\$3bn, for net tangible assets per share of A\$4.19 against A\$4.08 previously.



Graham Lever

Found as a sugar refiner in 1855, CSR has made a latter-day foray into resources via the purchase of Dehli Petroleum. Yet the expense of its oil and gas involvement and the low returns so far underline the second factor influencing the company's search for a new business—injured pride.

For although the company was listed 155th by sales on Fortune's 1983 list of top industrial groups outside the U.S., it has slipped from fourth or fifth to about eighth in terms of market capitalisation on the Australian stock exchanges.

Of the company's equity more than 20 per cent is foreign owned—most of it in the UK, with a stake of almost 3 per cent held by Japan's Toyota Motor Corporation.

CSR says its ability in the year just gone to reverse the trend of falling profits and increase all key ratios was achieved partly through an increase in the price of raw sugar, but mainly through:

- Improved results from building materials through rationalisation and cost-cutting—not through market forces;
- Solid marketing efforts in bauxite, alumina and aluminium, and coal;
- Reductions in operating and overhead costs;
- Curbing capital expenditure, and
- Divesting surplus, non-strategic or non-profitable assets in order to reduce debt and cut interest charges.

The incentive for reductions in costs is important. On total operating costs of about A\$1.5bn, a saving of 1 per cent represents an extra A\$15m in pre-tax income. Apart from reducing staff numbers, CSR has cut overheads and slimmed down its management structures. In building materials, for example, headquarters staff has been reduced from 180 to five and the product groups now report directly to a member of

general management. Proceeds from divestment in 1983-84 totalled A\$125m, and may realise a further A\$40m in 1984-85. Assets sold last year included the Sydney head office, the clay tiles business, two New South Wales sheep properties and a quarry in Singapore.

Total capital expenditure in 1983-84 was A\$247m, down from A\$350m. Expenditure was concentrated on completion of major projects already in hand. In the current year, capital expenditure is expected to be about A\$260m.

Overall, net interest charges fell from A\$67m in 1982-83 to A\$55m in 1983-84, and long-term interest cover rose from 2.6 to 3.4. Maturing debt of A\$182m is due for repayment in the current year and the opportunity will be taken further to reduce long-term borrowing where feasible.

Of the major divisions, Mr Kelman says CSR accepts that sugar is cyclical. "It's been that way for 125 years." Building materials has been slimmed to four main product groups and should benefit further from the pick-up in construction activity in Australia.

In oil and gas, the net profit was A\$11.5m in 1983-84, A\$5m down—attributed to a loss at Ricker Drilling Group and the inclusion in the profit last year of a one-off tax benefit of A\$10m.

Dividends declared by Dehli Petroleum from its earnings on Cooper Basin natural gas sales rose by A\$2.2m to A\$18.4m, while profit improved from crude oil production in Indonesia, and from natural gas production and gas pipeline operations in south-east Queensland.

Indeed, exploration and appraisal drilling significantly boosted Cooper Basin reserves. CSR says that its goals for 1990 are to enjoy a return on funds distinctly better than other similar large companies; to operate businesses the profits and competitiveness of which place them in the top quartile of their respective industries; significantly to reduce dependence on returns derived from commodities—and to acquire a major new line of business.

Disarmingly, CSR told a group of security analysts in Melbourne late last month: "To forestall the inevitable question, we do not know, at this stage what the new line of business should be or how we might obtain entry."

American Home Products Corporation

has sold its 73% interest in

The Prestige Group PLC

to

Gallaher Limited

We initiated this transaction, acted as financial advisor to American Home Products Corporation and assisted in the negotiations.

Merrill Lynch Capital Markets

June 1984

Avon Products, Inc.

has acquired through merger

Foster Medical Corporation

We acted as financial advisor to Avon Products, Inc. in this transaction and assisted in the negotiations.

Merrill Lynch Capital Markets

June 1984

New Issue

This announcement appears as a matter of record only.

July 18, 1984



COMMERZBANK OVERSEAS FINANCE N.V.

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 Kredietbank International Group
 Lloyds Bank International Limited
 Merrill Lynch Capital Markets
 Morgan Stanley International
 Nomura International Limited

Orion Royal Bank Limited
 Salomon Brothers International Limited
 Société Générale
 Swiss Bank Corporation International Limited
 Union Bank of Switzerland (Securities) Limited
 Wood Gundy Inc.

North American Quarterly Results

BANC ONE				HILTON HOTELS				LIBERTY-OWENS-FORD				NORTH AMERICAN PHILIPS			
Multibank holding company				Luxury hotels				Glass products, plastics				Electrical, electronic products			
Second quarter 1984				Second quarter 1984				Second quarter 1984				Second quarter 1984			
Revenue	Net profit	Net per share	Six months	Revenue	Net profit	Net per share	Six months	Revenue	Net profit	Net per share	Six months	Revenue	Net profit	Net per share	Six months
28.0m	0.71	0.71	51.6m	185.0m	24.5m	0.92	43.7m	440.0m	13.2m	1.00	37.7m	1,050m	1.00m	2.01m	
31.6m	1.40	1.25	51.6m	246.0m	28.2m	1.05	42.7m	293.7m	12.0m	0.96	38.2m	527m	0.92m	1.77m	
51.6m	1.40	1.25	51.6m	386.7m	36.7m	1.29	80.8m	691.6m	15m	1.13	69.0m	563m	1.06	1.20	
1.40	1.25	1.25	1.40	1.29	1.29	1.29	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	

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INTL. COMPANIES & FINANCE

Louise Kehoe reports on the outlook for the U.S. semiconductor industry

Wall St casts a shadow over Silicon Valley

IT IS 3,000 miles from Silicon Valley to Wall Street and opinions on each coast concerning the outlook for U.S. semiconductor chip makers are just as far apart. While New York's analysts are expressing increasing uncertainty about the strength of the semiconductor market, in California chip makers and industry analysts remain confident that the boom in sales is set to continue through 1984 and 1985.

semiconductor firms, have both reported dramatically increased earnings and sales for the quarter ended June 30. Both companies say they expect the growth trend to continue. National Semiconductor also maintains very strong order growth, the company says.

Although the "book-to-bill ratio" is widely seen as an indicator of the industry's health, the measure can be misleading. The figure has fallen steadily over the past few months from a record high of 1.47 to just over 1.1 in May. The June figure is expected to be about the same.

Microprocessor sales continue to be very strong, according to Intel, the primary source of the chips that are the "brains" of IBM and IBM-compatible personal computers. Advanced Micro Devices, which second sources Intel's microprocessors, acknowledges that "one or two" of its customers have cancelled or moderated orders.

In the highly volatile semiconductor market, the uncertainties expressed by analysts and investors could precipitate a real decline in orders as buyers adjust to the prospect of plentiful supply. It is also entirely possible that the apparent problems of the personal computer industry could have a significant effect on the companies that supply their chips just as the video games boom gave chip makers a temporary but welcome relief from the industry-wide recession three years ago.

Taipower to raise Y5bn

TAIPEI — The state-owned Taipower Co has signed agreements with about 18 firms in Tokyo to issue Y5bn (\$26.5m) worth of corporate bonds in Japan—Taiwan's first corporate bonds in Japan.

Nokia expects 25% rise in gross profit

NOKIA, the largest private sector industrial group in Finland, continues to expand with sales in the first four months rising to Fmk 2.5bn (\$466m), a gain of 24 per cent. Exports and sales of foreign subsidiaries showed "considerable growth."

Commonwealth Bank offers interest on current accounts

SYDNEY — Commonwealth Bank of Australia, the Government-owned trading bank, is to become the first major Australian bank to offer daily interest on current accounts.

U.S. \$175,000,000 National Westminster Finance B.V. Guaranteed Floating Rate Capital Notes 1991

INTERNATIONAL APPOINTMENTS Changes at Boeing

JAPANESE RESULTS TOTO YAMATO TRANSPORT YASKAWA ELECTRIC

COLES G. J. Coles & Coy. Limited A \$25,000,000 13 1/2 per cent Notes 1989

Eaton Finance N.V. \$35,000,000 12 1/2 per cent. Unsecured Loan Stock 2014

U.S. \$200,000,000 CANADIAN IMPERIAL BANK OF COMMERCE Floating Rate Debentures Due 1994

Wells Fargo International Financing Corporation N.V. U.S. \$50,000,000

3,852,400 Shares Travelers Corp. Common Stock

US\$25,000,000 Guaranteed Floating Rate Notes due 1988 JIM WALTER INTERNATIONAL FINANCE N.V.

Bank of Greece US\$ 150,000,000 Floating Rate Notes due 1994

U.S. \$25,000,000 Bergen Bank A/S Floating Rate Capital Notes Due 1991

Notice of Prepayment THE FUJI BANK, LIMITED U.S. \$20,000,000

The DIY magazine for the money enthusiast

U.S. \$250,000,000 Crédit Lyonnais Floating Rate Notes Due 1996

Svenska Handelsbanken U.S. \$35,000,000 Floating Rate Notes due 1987

UK COMPANY NEWS

MFI rises 29% to £39m as store network expands

A FURTHER advance in profits and an increased dividend are announced by MFI Furniture Group for the year to May 28 1984.

Group pre-tax profits of this household furniture retailer in the second half of 1983-84 have risen by 29 per cent to £23.47m taking the year's total up from £30.4m to a record £39.1m.

Shareholders are told that further progress has been made in extending and improving the store network. Four stores were opened in new areas and a similar number of smaller units closed.

Milbury at £2m and increases dividend

A SECOND HALF profit of £1.5m from Milbury makes just over £2m for the full year ended March 31 1984, compared with £531,000. The final dividend is 2.50p on capital increased by the acquisition of Westminster Property Group giving 5.4p net for the year, against 4.5p.



Mr James Raper—reporting substantial growth

There has been a good start, he says, with house-building sales over 50 per cent up on the comparable period last year.

Turnover of the group, which is a subsidiary of Saint Piran, moved up from £17.27m to £25.71m. After tax £178,000 (£16,000) net profit is £1.5m (£531,000) for earnings of 22.18p (9.47p) per share.

Year-end shareholders' funds have increased from £7.6m to £12.4m, and cash balances have risen to £4.2m.

Whatever the eventual effect of Hong Kong's rumblings on Gasco, whatever the length of the interminable legal action in the Isle of Man, Mr Jim Raper can claim with some justification that Milbury provides a stable on-shore UK base.

The market had done its sum beforehand and the effect of a near quadrupling of minority interest was only enough to shift the shares 2p back up to the year's high of 90p.

Yet Milbury can rival competing householder of minor interest in the market. In recent months and its new-comers, none of which has yet shown up in the p & l are worth some £900,000 annually on an historic basis and provide a good management and operating core for further expansion.

St Piran views, with something more than equanimity, the chance that equity acquisition could dilute its stake to 51 per cent in the near term. The only brakes on a buy-in & a department are a heavy level of gearing (debt of £6.5m), a decision on restructuring and a knockdown earnings multiple on an admittedly puny tax charge. But, rightly or wrongly, the prospect of making a decision, such as through 100p might depend as much on the national timber frame and interest rate reverberations as Milbury's own product and marketing ambitions.

Second half surge boosts HAT to record £10m

WITH A strong second half performance which saw pre-tax profits rise from £1.9m to £6.3m, HAT Group has turned in a record £10.25m for the year to February 29 1984.

The result compares with £3.2m last year following the company to fulfil its midway forecast if improved full year profits.

The group supplies specialist services and materials such as cleaning, glass, mechanical and electrical, merchanting, painting and plastering, and its customers include public and local authorities.

The director state that current trading is encouraging, and further progress is anticipated.

The final dividend is increased from 1.5p net to 1.55p, lifting the total from 3p to 3.3p on capital increased by last July's rights issue. The total is 0.65p ahead of the forecast then made.

Turnover moved up from £14.55m to £18.5m, and after tax £3.61m (£2.79m) net profit emerged at £6.4m against £4.2m. Minorities took £7,000 (£26,000).

There have been two major points of doubt against HAT—when will the rights proceeds be used to accelerate U.S. expansion and will it extricate itself from the speculative Houston property development.

Those doubts should soon evaporate. U.S. acquisition could be announced soon. If HAT has been slow that is because its initial target slipped through its fingers and directors have been wary of trying too hard.

As for Houston, it is now fully let and will be sold. With hindsight HAT over-reached itself with Houston and 1983, though the price at which the order book to a level of over £3m.

The £112,000 pre-tax surplus for the six months to April 30 1984—a £159,000 turnaround from the comparable loss—follows on the sharp reduction in the deficit from £1.24m to £257,000 at the last year end.

The directors state that while the experience of the past few years has induced a reluctance to comment on longer term prospects, the pattern of orders that has been set for the remainder of the year should ensure that the second half will be better than the period under review.

Orders on hand at the halfway stage amounted to £2.7m, and the trend of orders received has continued in May and June, lifting the order book to a level of over £3m.

comment

F. Pratt is creeping towards its first annual pre-tax profits since 1982, though the pace of its present recovery is hardly as exciting as the old stories about some of the former directors and their expense accounts. The company has at last seen a strong surge in orders from its traditional "workholding" business, which makes gripping parts for machine tools, particularly from North America.

It is, however, difficult to judge to what extent the group has retained its former pre-eminence in the world market in the face of competition from Eastern Europe and elsewhere.

Pratt's diversification into special projects—including an automatic dairy and an optically chair—though it seems too early to say how successful these will be in financial as opposed to technical terms. The unexpected return into the black lifted the shares 5p to 46p.

At this level the modest recovery is already well discounted since a full-year pre-tax profit of £250,000 puts the shares on a multiple of 10.

HIGHLIGHTS

Having briefly looked at the latest turn of events in the market Lex takes a hard look at Thorn EMU's £10m rights issue which is being made to finance the Immos acquisition. The cash call rocked the City and the shares fell a further 42p to 421p by the close of business yesterday having been within a few pence of £7 earlier this year.

The column then moves on to comment on the latest figures from MFI which reported pre-tax profits of £39m yesterday for the full year. The questions now centre on the group's long-term expansion plans and the clouded outlook for consumer spending in the light of the recent rise in interest rates.

Further progress through the second six months enabled Siebe Gorman Holdings to lift its pre-tax profits by £5.12m to £11.1m for the year to March 31 1984.

However, at the request of the Panel on Takeovers and Mergers the directors have extracted a final dividend greater than the proposed final dividend to 7.35p and restated their intention to propose the 4.3p originally indicated. This makes a total of 9.45p (5.3p) per 25p share.

In addition, they saw no reason why dividends for the 1984/85 year should not also show a worthwhile excess over the former level.

Turnover for the year under review expanded from £58.9m to £56.6m.

Tax accounted for a £5.23m (£8.81m) and minorities £807,000 (£178,000). Below the line there were extraordinary debits of £1.58m (£1.98m).

On a basis, earnings amounted to a 34.5p (26.6p) comment

Even after stripping out the £4.4m pre-tax contribution by recent acquisitions, the Siebe group's underlying profits in its existing businesses grow by a healthy 35 per cent. The improvement is even more striking when the severe rationalisation of recent years, profits have responded quickly to an upturn in demand for safety products.

The shares rose accordingly by 13p to 80p. Takealmit, which did little better than break even in the previous year, chipped in £1.4m in its first four months in the group—well ahead of City expectations, and a mark of the speed at which Siebe has slashed the garage equipment group's costs, closed loss-makers, and filled surplus capacity.

Acquisition costs, however, have driven up group net borrowings by £1m to £38m, or 98 per cent of shareholders' funds, at which level Siebe will probably need additional equity finance if it is to complete the takeover trail. Having breached the City Code by forecasting an increased dividend within a fortnight of the Takealmit bid's closing date, Siebe has been forced to stick to its earlier projection of a 9.45p net total payout, which yields 3.6 per cent with the historic multiple at 10.5.

Yearlings up 1/4% The interest rate for this week's issue of local authority of local authority bonds is 1 1/4 per cent, up a quarter of a percentage point from last week, and compares with 10 1/8 per cent a year ago. These bonds are issued at par and are redeemable on July 24 1985.

A full list of issues will be published in tomorrow's edition.

Siebe Gorman tops £11m for year

FURTHER PROGRESS through the second six months enabled Siebe Gorman Holdings to lift its pre-tax profits by £5.12m to £11.1m for the year to March 31 1984.

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D. F. Bevan maintains progress

THE ENCOURAGING trend D. F. Bevan (Holdings) reported midway was maintained in the second half, and enabled the metal merchant, casting and general engineer, and steel stockholder to finish the year to end March, 1984 with a return to profit.

The pre-tax result was £538,000, reflecting a strong upturn since the first half, which yielded £127,000, and contrasting with last year's finish at a loss of £114,000.

The directors recommend a final net dividend of 0.75p making a total for the year of 1p, against 0.25p last time. Turnover improved from £13.56m to £16.4m. After deducting the cost of sales, £13.94m (£11.71m), distribution costs, £774,000 (£707,000), administrative expenses, £1.01m (£915,000), interest and similar charges, £306,000 (£344,000) and tax, £55,000 (£7,000), the net surplus was £303,000 against a loss of £171,000 last time, when an extraordinary charge of £50,000 was incurred.

Dividends took £73,000 compared to £15,000, leaving profit retained of £230,000, against a loss of £186,000. Earnings per ordinary £5 share were 3.85p (loss, 1.5p). The return to profitability followed the group being tailored to meet difficulties, as reported to last year's meeting.

Increased Sales New Acquisitions

Our 1984 Annual Report, just published, highlights the success of our sales effort in increasing turnover to £61.7 million during a time of intense competition and lower selling prices for pipeline products. This progress has continued and sales in the current year show a further healthy improvement.

Towards the end of the year we acquired two valve and pipeline equipment distributors, G.B. Parkes and Brooks & Walker. Their combined sales in 1983 totalled nearly £20 million and we believe that our prospects will be greatly enhanced by the contributions from these acquisitions.

Our confidence in the current year, together with our continued strong balance sheet position, has influenced our decision to recommend an increase of 25% in the total ordinary dividends for the year.

If you would like to know more about Brown & Tawse, please return the coupon below for a copy of our Annual Report & Accounts.

BROWN & TAWSE

Industrial distribution and plant sales To: The Secretary, Brown & Tawse PLC, PO Box 159, London E3 3JQ. Please send me a copy of your 1984 Report and Accounts.

NatWest U.S. revival continues

National Westminster Bank U.S. the New York banking subsidiary of National Westminster Bank, is continuing its earnings recovery to report a 39 per cent growth in second quarter net income to US\$35m.

Other income rose \$0.6m to \$17.7m, helped by higher service charges earned on deposits, Visa cards and international operations. But the figure understates the growth, since the 1983 figure included a \$3.0m gain on securities sales.

At the end of June, the group's assets totalled \$7.9bn compared with \$7.6bn at the end of 1983. Loans rose from \$4.9bn at year-end to \$5.2bn following a \$101m equity capital injection.

Stewart McColl

The development capital arm of merchant bank Kleinwort Benson is to inject £5m into Stewart McColl Design Associates in return for a minimum 15 per cent equity stake in the company depending on profits over the next few years.

The design company is planning to seek a full listing on the Stock Exchange in the next couple of years. Its clients include British Telecom, Dorothy Perkins and the British Airports Authority.

Mr Barry Dean, of Kleinwort Benson Development Capital, has joined the board as a non-executive director.

F. Pratt in the black at midway

HIGHER ACTIVITY following long-term restructuring has enabled F. Pratt Engineering Corporation to report its first profit since 1980.

The £112,000 pre-tax surplus for the six months to April 30 1984—a £159,000 turnaround from the comparable loss—follows on the sharp reduction in the deficit from £1.24m to £257,000 at the last year end.

The directors state that while the experience of the past few years has induced a reluctance to comment on longer term prospects, the pattern of orders that has been set for the remainder of the year should ensure that the second half will be better than the period under review.

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At this level the modest recovery is already well discounted since a full-year pre-tax profit of £250,000 puts the shares on a multiple of 10.

Wight Collins profit nears £1m

AN 85 per cent advance in profits and plans to graduate to a full listing are announced by Wight Collins Rutherford Scott & Partners, the advertising agency which is at present a member of the Unlisted Securities Market.

Pre-tax profits rose from £516,167 to £958,886 as turnover up from £18.77 to £26.62 in the year to April 30, 1984. The company was recently cited in a survey by accountants Spicer and Pagler as the most profitable British advertising agency in terms of profits per employee.

A final dividend of 2.75p is proposed, making the year's total 4p net, as against 2.75p in 1983, and to be a one-for-one scrip issue.

Winding up orders for 67 companies

Compulsory winding up orders granted for 67 companies were made by Mr Justice Vinelott in the High Court. The companies include Lincoln Insulation, Boston Health Studios, Storm, Soudan (Realisations), Centrepeak (Northern), Jerseywood, Index Finishes (UK), Clowington, Exterdale, Minus Ten (UK), Hindmarsh Video, Ebodex, Lombard Industrial (Holdings), Menard Theatrical Productions, Lyndon Martin Construction, Bentax of Switzerland, Richard James Fashions, RingMack Surfacing, Boyd's Co Films (Gossip), Trading and Shipping International, Wideas Properties, Coronet Racing, East Riding Commercial, Hall Fabrications and Erection Company, ED Construction Company, Embassy Enterprises, Fordean Manufacturers (HARDWOODS), First Class Publications, Budget, Moonzone, Nameam, Portman (UK), Fuller Demolitions, Saddle, Granam, Quality Mechanical Services, Kennel, Cobhan Brothers, Review Newspapers, Smiddehal, Charles, White Services (Engineering), Premost, GL International Marketing, Andre and Michelle, Strikingform, Sulvan and Ramli International, Modico, J and B Homestyles, Duplex, Lido Press, J. Brierley (Contractors), Panache Furs, Sideland, Texcraft Engineering, Trident Building and Maintenance Company, High Street Service Station, Donafume, Top Tapes, CU Packaging, Payne Metcalf, W.P. (Realisations), Fairquate, Tribute Trading Company, Riddell's of London (Knightsbridge), Videomatic, Bertie Bankers, Urbancourt, Aquamarine International (Fisheries and Ocean Development).

Table with columns for SANDVIK Sandvikens Jernverks Aktieföretag US\$15,000,000 9% Bonds 1986 and a grid of numbers representing bond details.

Schroders Our 'Roll-Up' Fund offers attractive advantages to U.K. corporate investors

The proposed reduction in the rate of U.K. corporation tax from 45% to 35% in the next three years will make it attractive for many U.K. companies to invest their surplus funds in such a way that taxable income does not arise until the 35% rate becomes applicable.

Schroder Money Funds Limited, a Jersey-based "roll-up" money fund specifically designed for corporate investors, offers an attractive method of achieving this objective.

A copy of the Fund's current Prospectus can be obtained by writing or telephoning to:-

The Manager, Schroder Money Funds Limited, P.O. Box 195, Waterloo House, Don Street, St. Helier, Jersey, Channel Islands. Telephone No. Jersey (0534) 27561.

Schroder Money Funds Limited

This advertisement is issued by J. Henry Schroder Waggs & Co. Limited, an exempted dealer in securities. Shares may only be acquired on the terms contained in the Prospectus.

UK COMPANIES

BIDS AND DEALS

Buoyant all-round growth is shown by Allied Hambro

Allied Hambro Group yesterday reported buoyant new business on its life, pensions and unit trust sales in the first half of the year...

Hawker expands in U.S. with £15m deal

Hawker Siddeley has reached agreement in principle to acquire 40 per cent of Safetran Systems Corporation, a privately owned U.S. company based in Minneapolis...

Waddington under fire from Maxwell over rights issue

JOHN WADDINGTON, the games and packaging group, yesterday came under fire from Mr Robert Maxwell, who made an unsuccessful £18m takeover bid for the company last year...

Rank to expand in video with £4.5m deal

Rank Organisation plans to add a video production arm to its film and television service division. It has bought out the half share held by Phicom in Rank Phicom Video Group for £4.5m...

Midsummer deletes 'forecast' from letter urging bid rejection

MIDSUMMER INNS, the real ale pub chain, has been forced by the Takeover Panel to withdraw a phrase from a circular sent to shareholders this week urging them not to accept a £1.88m bid from Switland Leisure...

Lincroft answers John Finlan

THE ALL equity offer by John Finlan, the industrial building group, for Lincroft Kilgour has presented the cloth merchant and investment company with ample opportunities to attack its adversary and defend its record...

Beazer unmoved on bid

C. H. Beazer, the property, housebuilding and construction group, yesterday rejected an offer for his company by William Leech, a textiles subsidiary of the unlisted Australian company Certosa Group...

Courtaulds/Certosa

Courtaulds, the fibre and textile manufacturer, agreed yesterday to sell its 64.13 per cent interest in the company's Australian branch, Courtaulds Hilton, to Beaneath Pty, a textiles subsidiary of the unlisted Australian company Certosa Group...

Dollar Land leaves final choice up to shareholders

Dollar Land Holdings, the North American property group, yesterday left the final choice of whether to accept the £3.45m bid from Mr David Kirch, the Jersey businessman, to shareholders to retain their holdings...

Sumrie share block sold

Mr Harvey Michael Aoss, a Leeds bullion, coin trader and property developer, has reached his holding in Sumrie Clothing, a 21.2 per cent stake in the 100,000 shares...

DIVIDENDS ANNOUNCED

Table with columns: Company Name, Current Payment, Date, Corrected Dividend, Total Dividend, Total Dividend per Share.

BASE LENDING RATES

Table with columns: Bank Name, Rate, and other financial details.

Johannesburg Investments Consolidated Group. Gold mining companies' reports for the quarter ended 30th June 1984 with comparative figures for the previous quarter. Includes Randfontein Estates and Western Areas.

Granville & Co. Limited. Member of NASDMM. 27/28 Lovat Lane London EC3R 9EB. Telephone 01-621 1212. Over-the-Counter Market table.

Western Areas Gold Mining Company Limited. Operating Results, Financial Results, Development, and Dividends.

Elsburg Gold Mining Company Limited. Operating Results, Financial Results, Production, and Dividends.

Closing prices, July 17

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table containing stock prices for various companies, organized in columns with headers for stock names, prices, and changes. Includes sections for 'NEW YORK STOCK EXCHANGE', 'NASDAQ', and 'AMERICAN STOCK EXCHANGE'.

Continued on Page 25

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AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

Closing prices, July 17

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Main table of American stock exchange closing prices, organized by stock ticker symbols (A-Z) and including columns for 12-month high/low, stock name, and price changes.

Continued on Page 26

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of New York stock exchange closing prices, organized by stock ticker symbols (A-Z) and including columns for 12-month high/low, stock name, and price changes.

Notes on dividend data: Sales figures are unaudited. Yearly highs and lows reflect the previous 52 weeks... Includes definitions for e-dividend, r-dividend, and w-dividend.

WORLD VALUE OF THE POUND every Tuesday in the Financial Times

WORLD STOCK MARKETS

AUSTRIA

Table listing Austrian stock prices for July 17, including companies like Creditanstalt, Osterreichische, and Linz AG.

GERMANY

Table listing German stock prices for July 17, including companies like AEG-Telef., Allianz, and BASF.

NORWAY

Table listing Norwegian stock prices for July 17, including companies like Bergen Bank, Christiania Bk., and Den Norsk Cedit.

AUSTRALIA (continued)

Table listing Australian stock prices for July 17, including companies like Gen Prop Trust, Harolds, and Herald.

JAPAN (continued)

Table listing Japanese stock prices for July 17, including companies like MHI, Nissan, and Sanryo.

OVER-THE-COUNTER

Table listing over-the-counter market prices for July 17, including various international stocks.

NASDAQ NATIONAL MARKET, CLOSING PRICES

Table listing NASDAQ national market closing prices for July 17, including various US stocks.

LONDON

Table listing London stock prices for July 17, including various UK and international stocks.

Chief prices changes (in pence unless otherwise indicated)

Table listing chief price changes for London stocks for July 17.

NETHERLANDS

Table listing Dutch stock prices for July 17, including companies like AEG Holding, AGF, and Alkerm.

ITALY

Table listing Italian stock prices for July 17, including companies like Banca Com., Credito, and Eni.

SWITZERLAND

Table listing Swiss stock prices for July 17, including companies like Alusuisse, Bank Leu, and Nestle.

HONG KONG

Table listing Hong Kong stock prices for July 17, including companies like Bank East Asia, Cheung Kong, and Anglo.

SINGAPORE

Table listing Singapore stock prices for July 17, including companies like Boustead, Fraser & Neave, and Anglo.

JAPAN

Table listing Japanese stock prices for July 17, including companies like Ajinomoto, Amada, and Asahi.

SOUTH AFRICA

Table listing South African stock prices for July 17, including companies like Anglo, Anglo, and Anglo.

NOTES - Prices on this page are quoted on the individual exchanges and are last traded prices.

CANADA

Table listing Canadian stock prices for July 17, including companies like 1400, 1500, and 1600.

AMERICAN STOCK EXCHANGE CLOSING PRICES

Table listing American stock exchange closing prices for July 17, including various US stocks.

MONTREAL

Table listing Montreal stock prices for July 17, including various Canadian stocks.

U-U-U

Table listing U-U-U stock prices for July 17, including various international stocks.

V-V-V

Table listing V-V-V stock prices for July 17, including various international stocks.

Continued on Page 25

Table listing continued stock prices from page 25.

Continued on Page 34

Table listing continued stock prices from page 34.

WORLD ECONOMIC INDICATORS every Monday in the Financial Times

LONDON STOCK EXCHANGE

MARKET REPORT

RECENT ISSUES

Equities quietly dull following dock strike impasse; Thorn EMI plummet on cash call

EQUITIES

Table of stock prices and movements for various equities, including Thorn EMI and other major companies.

FIXED INTEREST STOCKS

Table of fixed interest stocks, including government bonds and corporate debentures.

"RIGHTS" OFFERS

Table of rights offers and new issues, including details on share allocations and prices.

NEW HIGHS AND LOWS FOR 1984

Table listing new highs and lows for various stocks in 1984.

OPTIONS

Table of options trading activity, including call and put options for various stocks.

RISES AND FALLS YESTERDAY

Table showing the rise and fall of various stocks and indices from the previous day.

ACTIVE STOCKS

Table of active stocks, highlighting those with significant trading volume.

LONDON TRADED OPTIONS

Table of London traded options, including call and put options for various stocks.

FINANCIAL TIMES STOCK INDICES

Table of financial times stock indices, including FTSE 100, FTSE 250, and other sector indices.

HIGHS AND LOWS S.E. ACTIVITY

Table showing high and low prices and South East activity for various stocks.

MONDAY'S ACTIVE STOCKS

Table of Monday's active stocks, listing key trading points and volume.

BP gain ground

Text article discussing BP's performance, market position, and recent trading activity.

NEW HIGHS AND LOWS FOR 1984

Table listing new highs and lows for various stocks in 1984.

OPTIONS

Table of options trading activity, including call and put options for various stocks.

RISES AND FALLS YESTERDAY

Table showing the rise and fall of various stocks and indices from the previous day.

ACTIVE STOCKS

Table of active stocks, highlighting those with significant trading volume.

LONDON TRADED OPTIONS

Table of London traded options, including call and put options for various stocks.

Account Dealing Dates

Text regarding account dealing dates and financial reporting requirements.

First Declared Last Account

Text regarding the first declared last account and its implications for investors.

Extremely quiet trading

Text describing the extremely quiet trading conditions in the market.

Meanwhile, leading shares

Text discussing the performance of leading shares in the market.

Debtors' rights

Text regarding debtors' rights and the impact of the dock strike.

Elsewhere, interest centred

Text discussing market activity elsewhere, including interest rates.

Clearers up again

Text regarding clearing activities and market recovery efforts.

FT-ACTUARIES SHARE INDICES

Text regarding FT-actuaries share indices and their performance.

Table of FT-actuaries share indices, including various actuarial funds.

FIXED INTEREST

Table of fixed interest rates and yields for various instruments.

BRITISH GOVERNMENT INDEX-LINKED STOCKS

Table of British government index-linked stocks and their performance.

BRITISH GOVERNMENT INDEX-LINKED STOCKS

Table of British government index-linked stocks and their performance.

BRITISH GOVERNMENT INDEX-LINKED STOCKS

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BRITISH GOVERNMENT INDEX-LINKED STOCKS

Table of British government index-linked stocks and their performance.

FT LONDON SHARE INFORMATION SERVICE



BRITISH FUNDS

Table of British Funds including 'Shorts' (Lives up to Five Years), Five to Fifteen Years, and Over Fifteen Years.

Table of Undated and Index-Linked funds.

Table of INT. BANK AND O'SEAS GOVT STERLING ISSUES.

Table of CORPORATION LOANS.

Table of COMMONWEALTH AND AFRICAN LOANS.

Table of LOANS Building Societies.

Table of Public Board and Ind. Financial.

Table of FOREIGN BONDS & RAILS.

AMERICANS

Table of American stocks including various industrial and financial shares.

Table of CANADIANS stocks.

Table of BANKS, HP & LEASING.

Table of BEERS, WINES & SPIRITS.

BEERS, WINES—Cont.

Table of Beer and Wine stocks.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of Building Industry, Timber, and Roads stocks.

Table of CHEMICALS, PLASTICS.

Table of DRAPERY AND STORES.

DRAPERY & STORES—Cont.

Table of Drapery and Stores stocks.

ELECTRICALS

Table of Electrical stocks.

Table of FOOD, GROCERIES, ETC.

Table of HOTELS AND CATERERS.

Table of ENGINEERING—Continued.

ENGINEERING—Continued

Table of Engineering stocks.

Table of INDUSTRIALS (Miscel.).

Table of HOTELS AND CATERERS.

Table of ENGINEERING—Continued.

INDUSTRIALS (Miscel.)

Table of Industrial stocks.

Table of HOTELS AND CATERERS.

Table of ENGINEERING—Continued.

Table of INDUSTRIALS (Miscel.).

Just in time

INDUSTRIALS—Continued

Table of industrial stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

LEISURE—Continued

Table of leisure stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

PROPERTY—Continued

Table of property stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

OIL AND GAS—Continued

Table of oil and gas stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

International Finance DAIWA SECURITIES logo and branding.

MINES—Continued

Table of mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

SHIPPING

Table of shipping stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

SOuth AFRICANS

Table of South African stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Garages and Distributors

Table of garage and distributor stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

SHOES AND LEATHER

Table of shoes and leather stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

TEXTILES

Table of textile stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

PAPER, PRINTING, ADVERTISING

Table of paper, printing, and advertising stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

TOBACCO

Table of tobacco stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

PROPERTY

Table of property stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

INSURANCES

Table of insurance stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

PROPERTY

Table of property stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

OVERSEAS TRADERS

Table of overseas trader stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

PLANTATIONS

Table of plantation stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

MINES

Table of mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Central Rand

Table of Central Rand mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Eastern Rand

Table of Eastern Rand mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Far West Rand

Table of Far West Rand mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

O.F.S.

Table of O.F.S. mining stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

TINS

Table of tin stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Miscellaneous

Table of miscellaneous stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

NOTES

Notes section containing financial news, company announcements, and market commentary.

REGIONAL & IRISH STOCKS

Table of regional and Irish stocks including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

OPTIONS—3-month call rates

Table of 3-month call option rates including companies like British Airways, British Petroleum, and British Telecom, with columns for stock price, change, and volume.

Recent issues and Rights Page 35

AUTHORISED UNIT TRUSTS

Table listing various unit trusts such as Abbey Unit Tr. Mgrs., Allport Unit Tr. Mgrs., and others, with columns for fund names and performance metrics.

FT UNIT TRUST INFORMATION SERVICE

Main table of FT Unit Trust Information Service, listing numerous unit trusts like Britannia Group, Fremington Unit Mgt. Ltd., and others, with detailed performance data.

Table listing various insurance and financial services, including City of Westminster Assurance, General Portfolio Life Ins. PLC, and others.

INSURANCES

Table listing insurance companies and their services, such as AA Friendly Society, Allstate Insurance Co. Ltd., and others.

F.T. CROSSWORD PUZZLE No. 5,468

CROSSWORD PUZZLE No. 5,468. ACROSS: 1 Bear knocked over by the French... 2 At home, hot teatime include a pancake... 3 The Az in cloudage? (6)...

Crossword puzzle grid with numbers indicating starting positions for the clues.

Solution to Puzzle No 5,467

Solution to Puzzle No 5,467, showing the completed crossword grid with words filled in.

Table listing various unit trusts and financial services, including Britannia Group, Fremington Unit Mgt. Ltd., and others, with performance data.

INSURANCE, OVERSEAS & MONEY FUNDS

Handwritten signature: Jeff, 10/1/84

Table of insurance and overseas funds including Liberty Life Assurance Co Ltd, National Prudential Institution, and various international investment funds.

Table of insurance and overseas funds including Sava & Prosper Group, Target Life Assurance Co Ltd, and various international investment funds.

Table of insurance and overseas funds including CAL Investments (Ireland) Ltd, CAL Investments (Bermuda) Ltd, and various international investment funds.

Table of money market and trust funds including Marine Midland (CI) Ltd, Sun Life of Canada, and various trust and money market funds.

OFFSHORE AND OVERSEAS

Money Market

Trust Funds

Money Market

Bank Accounts

Money Market

Bank Accounts

Money Market

Bank Accounts

Money Market

Bank Accounts

Money Market

Bank Accounts

Money Market

Bank Accounts

COMMODITIES AND AGRICULTURE

Aluminium price reversal leads base metals decline

BY RICHARD MOONEY

ALUMINIUM prices went sharply into reverse on the London Metal Exchange yesterday as traders reassessed the present supply demand situation. The cash quotation ended 22¢ down on the day at \$84.4 a tonne...

Copper fabricators expect little demand growth in short-term

BY JOHN EDWARDS, COMMODITIES EDITOR

NO SUBSTANTIAL improvement in demand for copper products is likely in the short-term, according to the annual report of the British Non-Ferrous Metals Federation issued yesterday.

Milk scheme delays aggravate discontent

BY A CORRESPONDENT

MORE THAN 50,000 dairy farmers in France and West Germany have so far applied for golden bandshakes offered by their governments to stop producing milk as a way of softening the effects of EEC-imposed quotas.

Sugar price resumes world decline

WORLD SUGAR values resumed their recent decline yesterday with the London daily raws price slipping another 2.50 to \$92 a tonne, the lowest level since October 1983.

Slaughtering rise forecast

BRUSSELS - The European Community farmers' lobby, Copo and Cogeca, said about 800,000 extra cows are likely to be slaughtered during the second half of 1984 due to the milk production quotas imposed in April.

Australian wool boost

CANBERRA - Australian wool exports are forecast to rise sharply to 747m kilos in the July/June 1984/85 season from 625m in 1983/84.

PRICE CHANGES

Table with columns for commodity name, unit, and price change. Includes items like Metals, Wheat, and various oils.

BRITISH COMMODITY PRICES

Table with columns for commodity name, unit, and price. Includes items like Zinc, Copper, Tin, and Lead.

AMERICAN MARKETS

Table with columns for commodity name, unit, and price. Includes items like Soybean Meal, Coffee, and various grains.

LONDON OIL

The gas oil market opened unchanged but quickly fell after a trade buying in early trading. Later in the morning prices drifted lower but a steady opening in New York moved the market back to the highs and prices remained steady until the close.

SPOT PRICES

Table with columns for commodity name, unit, and price. Includes items like Crude Oil, Gas Oil, and various metals.

GOLD MARKETS

Gold fell 55 to \$348.2469 on the London bullion market yesterday. It opened at \$347.448 and was fixed at \$347.50 in the morning and \$347.15 in the afternoon.

LONDON FUTURES

Table with columns for commodity name, unit, and price. Includes items like Wheat, Corn, and various oils.

EUROPEAN MARKETS

Table with columns for commodity name, unit, and price. Includes items like Wheat, Corn, and various oils.

WHEAT

The market came under general hedge selling pressure and profit-taking in the afternoon with the close at 119.00. The market was triggered before values drifted back slightly but further support was provided in the afternoon with the close at 119.00.

GRAINS

The market came under general hedge selling pressure and profit-taking in the afternoon with the close at 119.00. The market was triggered before values drifted back slightly but further support was provided in the afternoon with the close at 119.00.

COFFEE

During a quiet opening commodity prices and dealer buying encouraged gains of 20-25 cents. Prices were held steady by a steady flow of orders from the market.

WEEKLY METALS

Table with columns for commodity name, unit, and price. Includes items like Zinc, Copper, Tin, and Lead.

POTATOES

The market continued firm due to dry weather forecasts, trading within a 20-25 cent range. Prices were held steady by a steady flow of orders from the market.

WOOL FUTURES

The market remained on the defensive following a poor overnight in New York and by the close the market was held steady by a steady flow of orders from the market.

MEAT/FISH

MEAT COMMISSION - Average lot-spot prices at representative markets. The market remained on the defensive following a poor overnight in New York and by the close the market was held steady by a steady flow of orders from the market.

NEW YORK

Table with columns for commodity name, unit, and price. Includes items like Aluminum, Copper, and various metals.

CHICAGO

Table with columns for commodity name, unit, and price. Includes items like Live Cattle, Live Hogs, and various grains.

SOYBEAN MEAL

Table with columns for commodity name, unit, and price. Includes items like Soybean Meal, Soybean Oil, and various grains.

HEATING OIL

Table with columns for commodity name, unit, and price. Includes items like Heating Oil, Gas Oil, and various oils.

PLATINUM

Table with columns for commodity name, unit, and price. Includes items like Platinum, Gold, and various metals.

NICKEL

Table with columns for commodity name, unit, and price. Includes items like Nickel, Zinc, and various metals.

INTERNATIONAL CAPITAL MARKETS

WRESTLING WITH RECOVERY

A recent series of features on a cross-section of British manufacturing industry set out to illustrate how they had coped with the worst recession since the '30s and how they viewed the future.

Senior executives of the following companies were interviewed by FT journalists: Tootal, Armstrong Equipment, DRG, Brown Boveri Kent, Perkins, Sheerness Steel, Croda, IMI, Digico, Alcan, Plessey, Kenwood, Dabillier and Gestetner.

These features have been reprinted in a booklet, priced £3.50, available from:

Nicola Banham,
Financial Times, Publicity Department,
Bracken House, 10 Cannon Street,
London EC4P 4BY

INTERNATIONAL BONDS

GE issue pricing 'too aggressive'

By Maggie Urry in London

EYES widened and jaws dropped yesterday when Eurodollar bond dealers saw a \$150m issue from General Electric Credit International.

Lead managed by Smith Barney Harris Upham, the three-year paper, priced at par, carried a mere 12% per cent coupon. Although the name is good, the coupon was thought to be too aggressive. Smith Barney was not available for comment yesterday.

New issue managers suggested that the bidding for the deal had been very competitive. A number of houses turned down the offer of co-management. The issue was quoted at a 1% point discount, outside the 1% per cent fees.

The bonds come with warrants, priced at \$25, which give the right to buy a 12% per cent bond dated 1991 at par, during the life of the three-year bond. The warrants looked overpriced too, and were quoted around \$22.

Otherwise the Eurodollar bond market was again quiet, with little

or New York interest. The mood in New York has swung back to one of depression again, after Monday's consumer credit figures, and Eurodollar bonds followed suit. Prices of seasoned bonds dipped by 1/4 to 1/2 point.

Deutsche Bank launched the first convertible D-Mark bond for three months, for Kawasumi Textile Manufacturers. The Japanese company's issue raised DM 45m, and its Kawasumi's debut in the D-Mark sector. Deutsche Bank indicated a yield of 4 per cent for the six-year bond, with a par issue price. Final terms will be set on July 24.

Redemption is expected to be at 105, giving a yield of 4 1/2 per cent. In early trading the bonds were indicated at a discount of around 1 1/4 points.

Sticking to the new issue calendar, Spain launched a DM 200m deal. The terms - an eight-year bond at 8% per cent coupon and a price of 98% - looked a little tight and the issue traded at a discount of about 2 points. Lead manager was Dresdner Bank.

Seasoned D-Mark bonds lost 1/4 to 1/2 point. Buyers were deterred by the strong dollar, and kept away.

There were two private placements in the Swiss Franc sector. Sankens Electric raised SwFr 50m with a five-year convertible issue. The Swiss market was quiet with prices unchanged, to low turnover.

Lloyds to streamline operations

By Peter Montagnon, Euromarkets Correspondent, in London

LLOYDS BANK International, the international banking arm of Lloyds Bank, is to streamline its capital market division to take account of the blurring of distinctions between the credit market and securities business.

Mr William Knight, principal manager in Lisbon, is to return to London as head of the reorganised division, which will be organised along lines similar to those announced last week by Citicorp in London.

This will involve the creation of three teams, each with responsibility for the full range of capital market services in specific geographical areas.

Mr Matthew Olex will be responsible for Europe, Mr Tom Hoffman for the UK and Ireland, and Mr Jonathan Scott for the Middle East, Africa and Scandinavia.

Mr John Hobbs will remain in charge of Eurobond syndication and swaps, while Mr David Nicoll will assume responsibility for the placement of banking assets and related secondary market activity.

FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. The following are closing prices for July 17.

U.S. DOLLAR	Issue	Yield	Change	U.S. DOLLAR	Issue	Yield	Change
Alpine Housing 11 1/2 84	100	8 1/2	+0.01	Alpine Housing 11 1/2 84	100	8 1/2	+0.01
Alpine Housing 11 1/2 84	100	8 1/2	+0.01	Alpine Housing 11 1/2 84	100	8 1/2	+0.01
Alpine Housing 11 1/2 84	100	8 1/2	+0.01	Alpine Housing 11 1/2 84	100	8 1/2	+0.01

OVER-THE-COUNTER

Stock	Price	High	Low	Last	Chg
Continued from Page 26					
AXP	216	215	216	216	-
IBM	138	138	138	138	-
IBM	138	138	138	138	-

Stock	Price	High	Low	Last	Chg
Continued from Page 26					
IBM	138	138	138	138	-
IBM	138	138	138	138	-

U.S. DOLLAR	Issue	Yield	Change
Alpine Housing 11 1/2 84	100	8 1/2	+0.01
Alpine Housing 11 1/2 84	100	8 1/2	+0.01
Alpine Housing 11 1/2 84	100	8 1/2	+0.01

ASSOCIATES CORPORATION OF NORTH AMERICA

announces that its Netherlands Antilles Subsidiary

ACONA N.V.

pursuant to a Resolution passed February 28, 1984 has changed its name to

ASSOCIATES CORPORATION OF NORTH AMERICA OVERSEAS FINANCE N.V.

with effect from March 7, 1984

The outstanding Notes will continue to remain valid.

This announcement appears as a matter of record only.

Commercial Paper Program

for

Fort Howard Paper Company

MORGAN STANLEY & CO.
Incorporated

July 11, 1984

NatWest Mortgage Rate

With effect from 18th July, 1984 for new borrowers, and 1st August, 1984 for existing borrowers, the NatWest Mortgage Rate payable under current Mortgage Deeds and Conditions of Offer will be increased by 2 1/4% to 12 3/4% p.a.

National Westminster Home Loans Limited
41 Lothbury, London EC2P 2BP.

The new National Savings Yearly Plan

YEARLY PLAN

WHAT IT OFFERS

- You can build up a large sum for retirement or a major purchase.
- You can save with no fuss or bother by monthly standing order.
- You need only save for one year - or carry on if you want to.
- You will be offered a competitive and guaranteed return.
- You will earn all of your interest free of tax.

If you have between £20-£100 a month to save fill in the coupon and we will send you full details and an application form.

To: FREEPOST National Savings, Yearly Plan, Durham DH991BT.

NATIONAL SAVINGS

Handwritten notes and signatures at the bottom of the page.